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THE
NORTH AMERICAN
MEDICO-CHIRURGICAL
REVIEW.

EDITED BY

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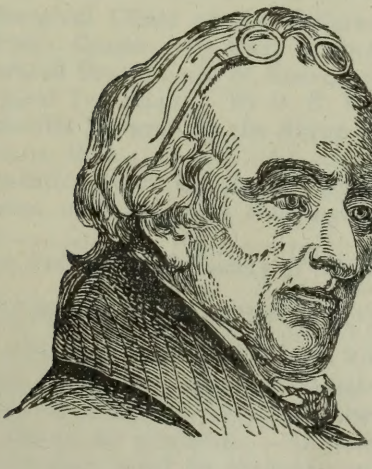
VOL. IV.



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THE

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

JANUARY, 1860.

Analytical and Critical Reviews.

ART. I.—*A Practical Treatise on the Diagnosis, Pathology, and Treatment of Diseases of the Heart.* By AUSTIN FLINT, M.D., Professor of Clinical Medicine, etc., in the New Orleans School of Medicine, Visiting Physician to the New Orleans Charity Hospital, etc. etc. 8vo., pp. 473. Philadelphia: Blanchard and Lea, 1859.

AMONG the names which adorn the medical literature of our country, that of Professor Austin Flint is one of the most prominent. His essays upon a great variety of topics enrich our journals, and his authority in more than one field of research equals that of any living writer. Acute observer, careful recorder, trustworthy reporter, patient thinker and logical reasoner, he is always listened to with respectful attention. It is not easy even for the critical reviewer to speak of his works in any other than the language of eulogy; and we do not now propose so much a critical examination, as a brief and faithful analysis of the volume whose title stands prefixed.

It cannot be said that the diseases of the heart have been of late years neglected or carelessly considered. Some of our most illustrious pathologists and experienced therapeutists have devoted a portion of their time to this class of morbid affections, but no compendious treatise, comprehensive and of easy reference, has been published since Hope's appeared. In the mean while a large amount of material has been accumulating from various sources, to which Professor Flint has contributed his full proportion, and of all which he has in the work before us availed himself with skill and judgment.

The division and arrangement of such a treatise must be in great degree arbitrary, and may generally be left to the discretion of an author of ordinary ability and experience. Professor Flint has chosen to commence with a chapter upon enlargement of the heart. The second describes the lesions of its walls. Valvular lesions and congenital malformations occupy the next three. A chapter is devoted to certain miscellaneous affections connected with structural diseases of the organ. The two following treat of cardiac inflammations. Functional disorder of the heart is the subject of the ninth chapter; and the tenth and last discusses the connected topic of aortic changes and thoracic aneurisms.

Enlargement of the heart includes dilatation and hypertrophy. Hypertrophy may show itself by increase of weight as well as of bulk; and there may be increase in all modes, bulk, weight, and volume. Increase of volume only is ascribed to dilatation, the thickness of the muscular walls being diminished to attenuation. The diagnostic criteria of predominant dilatation are often positive enough; but it is not easy to decide whether the enlargement is or is not accompanied by hypertrophy. Professor Flint decides that the average size of the organ is about four inches in either dimension, being somewhat less in the female than in the male; its average weight being between eight and ten ounces—somewhat less also in the female. The greatest enlargement he has met with reached in weight forty ounces; the vertical and transverse dimensions may be six inches or more. He speaks of fatty enlargement as false hypertrophy; as it is not a hypertrophy at all but a degeneration, we regret his use of the word in that relation. He regards true hypertrophy as an actual "hypergenesis" of the tissue, inasmuch as the size of the muscular fibrillæ is not increased, notwithstanding the augmented bulk or thickness of the muscular wall. If he means that new muscular fibres are superadded, we think the point is not yet settled. In hypertrophy the width is increased more than the length, and the left ventricle oftener affected, and in the greatest degree in most cases, its wall being even two inches thick.

The hypernutrition is the result of undue exercise of the muscular power of the organ, scarcely to be regarded as disease, but rather as a necessary provision for carrying on the circulation under difficulties, and an important conservative provision against over-accumulation of blood in the first instance, as also against the more serious form of enlargement, viz., dilatation. In the great majority of cases the precedent causative conditions are obvious, and exist in the heart itself or the large vessels. When such mechanical causes are not obvious in obstruction or insufficiency of valves, we submit that there is an equally obvious explanation in the repetition of temporary dilatation by such mental emotion or other contingency as excite the heart to transiently undue action; the result of which repeated and vehement efforts is as readily understood as when we have altered mechanism.

There is no difficulty whatever in explaining the production either of uncomplicated hypertrophy or that which is complicated with valvular disorder. Lesion at the aortic orifice, involving contraction and obstruction or inadequateness of the valves and regurgitation, both being often, if not always combined, must occasion undue distention, stimulation, reactive undue effort, and hence hypernutrition. These influences are at first confined to the left ventricle, but soon extend to the right, composed as its wall is in part of the same muscular fibres. Besides this, the left auricle is distended because of the accumulation in the ventricle; it yields and its permanent dilatation gives rise to pulmonary engorgement, thus offering an obstacle to the current through the pulmonary artery from the right ventricle, which is stimulated, dilated, and hypertrophied.

In auricular enlargements dilatation soon predominates, as a rule, over hypertrophy; the same rule ultimately holds good as to the ventricles also, but after indefinite periods.

It is somewhat remarkable that while lesions at the pulmonary orifice occurring after birth are so rare that their occurrence may "almost" be practically disregarded in diagnosis, in fœtal life it is the point of departure for many of the congenital malformations of the heart, the right ventricle being often found enormously hypertrophied.

Not only obstructions at or near the centre of circulation give rise to cardiac enlargement; it may be traced to pulmonary obstruction too, whether from emphysema, chronic pleurisy, collapse or dilated bronchi. Professor Flint doubts, and may well doubt, whether the renal affections found not very unfrequently associated with cardiac disease are, as conjectured, causative of it, or rather consecutive or dependent upon it. We have seen no proofs of their interconnection by causative relation. He gives an interesting instance of their coincidence in a young woman dying after abortion produced in the latter stage of her pregnancy—previous to which she had been well and vigorous. There was here granular degeneracy of the kidney, with uncomplicated cardiac hypertrophy. He also questions, which we do not, the development of hypertrophy by prolonged functional disorder of the heart. He does not deny the tendency, but thinks the increased action is never sufficiently constant or persisting.

He notices, briefly, hypertrophy concentric, centripetal, or with diminution of the capacity of the cavities. He does not think that the marked tonic contraction of the walls accounts clearly for all the appearances, but suggests the weight of the heart as the proper test in such cases.

Of the symptoms of hypertrophy, our author speaks with his characteristic clearness and prudence. The symptomatic phenomena so fluently recited by various writers, he denotes as having been determined inferentially rather than by observed facts.

The physical signs he describes with great neatness as common to both forms of enlargement. 1. Extended and increased dullness in the præcordia on percussion. 2. Altered situation and extent of the apex beat, which is carried to the left of its normal situation and frequently lowered: impulses felt elsewhere than over the apex, as even in the epigastrium; and abnormal force of impulse. 3. Abnormal modifications of the heart sounds, the first sound being notably dull and prolonged as well as exaggerated in intensity—these significant modifications relating more especially to the element of impulsion; in hypertrophy of the right ventricle, an exaggeration of the pulmonary second sound is highly significant; diminished extent and degree of the respiratory murmur and vocal resonance within the præcordia as determined by auscultation, resulting from the displacement or pushing apart of those portions of lung which lie against the sides of the heart in its natural position. 4. Enlargement of the præcordia and abnormal movements, as determined by inspection. 5. Increased size of the chest, as determined by mensuration.

It is obvious that in depending on these two latter signs, we refer to a normal standard, infringed by abnormal projection or prominence of the præcordia or tumor there; but we must remember that very few individuals are truly symmetrical in figure, and that we must allow some margin of irregularity as not interfering with health.

The summary given of the physical signs distinctive of enlargement by *hypertrophy* is clear and concise: 1. Abnormal force of apex beat; impulsion prolonged, sluggish, and strong. In hypertrophy of right ventricle, strong impulse in epigastrium, sometimes communicated to the sternum and extending over the site of the liver. There is a strong heaving movement of the ribs or entire præcordia in hypertrophy, distinguished from the mere shock, more or less violent, due to augmented functional activity (or action) of the ventricles. 2. Exaggeration of the aortic second sound, and of the element of impulsion of the first sound, rendering it in hypertrophy of the left ventricle dull and prolonged as well as intense. In hypertrophy of the right ventricle, exaggerated intensity of the pulmonary second sound; and, in some cases, augmentation of the tricuspid valvular element of the first sound. We collate for comparison, turning over some pages forward, the summary of the physical signs of *dilatation.*

1. The dullness on percussion will show a change of the form of the heart, the tranverse dimensions exceeding the vertical. 2. The apex beat will be found devoid of force, or suppressed; and there will be little or no heaving movement of ribs and præcordia. 3. The element of impulsion of the first sound will be deficient or absent, and the sound short and valvular.

In the treatment of hypertrophy proposed by Prof. Flint, the antecedent pathological conditions which give rise to the morbid affection being immedicable, the indications are laid down as follows, and reasoned out in a manner worthy of his reputation as a wise and experienced practitioner: 1. To prevent or limit the impediments to the circulation dependent on precedent contingencies. 2. To obviate the tendency to dilatation. 3. To quiet undue excitement and irregular cardiac action.

The first indication is to be fulfilled chiefly by negative measures—the avoidance of all excesses in eating, drinking, exercise, mental action; of constipation and alternations of temperature. Blood-letting may be employed, but with great caution; other means of depletion, when that is necessary, are generally preferable, as involving less risk of harm, such as the use of saline laxatives and diuretics, with a somewhat restricted diet. These he regards as free from the evils apt to attend the spoliative effects of losses of blood.

2. Dilatation being the result of weakness of the heart, we must guard against its chief cause—anæmia, or impoverishment of blood. Nutritious diet, exercise within certain limits—we are surprised at the omission of all mention of iron or other tonics here—are the means recommended. 3. Certain remedies are advised to quiet undue excitement and irregular action of the heart, which undoubtedly tend to aggravate all the evils present. We are persuaded of the superiority of the veratrum viride for these purposes to all other remedies. Digitalis, though often useful, is less certain, less regular, less uniform in its effects, and, therefore, much less available. Belladonna and aconite are similarly defective. Prussic acid we have found more worthy of confidence.

Enlargement by dilatation is regarded by our author as the ultimate result of the contingencies which go to produce enlargement in general and hypertrophy. It consists in the yielding of the cardiac walls to the distending force of accumulation of blood; this is determined by functional debility of the organ, or changes in the muscular fibres. Anæmia, the feebleness consequent on pericarditis and adherent pericardium, fatty degeneration and softening, tend to abridge hypertrophy, and favor dilatation.

The symptoms become more definite as this progresses. The apex beat and pulse are feeble and irregular; there is indefinable distress at the præcordia, with dyspnœa and lividity of tongue, lip, and face, and coolness of the extremities. Orthopnœa ensues, aggravated into cardiac asthma attacking in paroxysms; all which are increased by exercise and mental excitement. Cough and expectoration follow; the abdominal viscera undergo passive congestion; the liver is enlarged; granular degeneration of kidneys, attended in some cases with œdema increasing into general dropsy.

With certain qualifications, says Prof. Flint, the indications for the treatment of dilatation are the same as in predominant hypertrophy. Blood-letting is to be employed more rarely, and with greater circumspection—a remark which applies also to other methods of depletion, saline purgatives and duretics, which, perhaps, should be employed to the entire exclusion of venesection. Excessive muscular action, mental and other excitement, must be avoided. External warmth and revulsives to the extremities are called for. Nutritious diet, and, if anæmia be present, iron, reasonable exercise, and avoidance of constipation, are mentioned. So are anodynes, digitalis, and aconite, which, however, must not be pushed beyond the effect of merely tranquilizing the action of the heart, without weakening its muscular power. Paroxysms of dyspnœa are to be palliated by antispasmodics and revulsives, such as the ethers internally, and externally by cupping, sinapisms, and stimulating pediluvia.

Hypertrophy having been thus fully discussed, Prof. Flint goes on in his second chapter to treat of other lesions affecting the walls of the heart. Atrophy, with diminished bulk, is of these the first noticed. The organ is reduced in size and weight occasionally, and the capacity of its cavities diminished. This condition is rare; indeed we are disposed to doubt its existence idiopathically. Our author speaks of it as incidental to chronic diseases of long duration, characterized by gradual progressive emaciation. He does not consider as established its familiarly assumed dependence upon pericardial adhesions and calcification of the coronary arteries. We confess ourselves at a loss to conceive of any grounds upon which it may be regarded, as he intimates, among conservative provisions, and not an evil.

The symptoms are, of course, those which denote feebleness of the circulation, but they are none of them distinctive, being incident also to other lesions, such as dilatation, fatty degeneration, softening, etc. The physical signs, however, are distinctive and diagnostic, consisting in a contraction of the limits of the superficial and deep cardiac regions; in the indistinctness or loss of the apex beat and of the heart sounds, and an extension of the vesicular resonance and murmur over the præcordia. The case is hopeless and immedicable.

Fatty growth and degeneration are the next changes noticed. There may be in health a good deal of fat about the heart, and this deposit does not occasion any inconvenience unless in very large amount; this is most apt to occur after the middle period of life, in persons of what Prof. Gross calls the "adipose diathesis," shown by general corpulence. Beneath the layer of fat the muscular substance may be unchanged, but in general, is pale and softened. Still greater inconvenience arises when the adipose matter is deposited between and among the muscular fibres. Functional debility, atrophy and dilatation, are apt to result. Fatty degeneration differs essentially from mere deposit of adipose vesicles or infiltrated oily matter. The portions of the heart affected assume a yellowish or fawn color, or a mottled aspect in patches, the fat replacing the muscular substance and being deposited in the form of oil globules within the sarcolemma. It thus constitutes, in fact, a form of cardiac atrophy. Examined with the microscope the striæ or transverse markings of the fibres are indistinct or wanting; nay, the muscular substance may disappear, the fibres presenting their outline, but containing fatty matter instead—our author considering the more philosophical explanation of this change to be that which regards it as a process of replacement rather than of conversion. This latter would not be due to perverted nutrition properly, being a chemical, not a vital process. It is doubtful, whether in this replacement, absorption of muscular or deposit of fatty atoms is the first or primary change. Nor is it easy to decide whether the lesion may not depend upon a general diathesis or blood-crasis, as, although it occurs in persons not corpulent, it is usually found associated with similar degeneration in other parts—the liver, spleen, and arterial tunics.

The symptomatic phenomena are not distinctive. The pulse is, of course, feeble; but its slowness—infrequency, we should prefer to say—the number of beats having been reduced to eight or nine per minute, deserves remark. To the other manifestations of cardiac weakness, intermission, irregularity, and, in the advanced stage, great frequency of pulse, general dropsy, oppression, palpitation, and syncope common in other disorders of the organ, our author adds here capillary congestion of the extremities in notable degree. We are pleased to find him skeptical concerning the familiar notion of a fixed pathological connection between attacks of apoplectic and other cerebral disorders and fatty degeneration, or any disease of the heart; or, at any rate, declaring that further clinical observation is necessary to establish it.

Fatty degeneration of the iris, the arcus senilis, he regards with more consideration, as aiding, at least, in the diagnosis here; but speaks of it, with his usual sagacious caution, as a matter for continued inquiry.

The pathological effects of this lesion are also indeterminate. Sudden death may occur in syncope; or it may prove fatal by leading to rupture.

Of this accident, we once saw a remarkable case in a female subject, apparently emaciated in the greatest degree, whose heart was loaded with fat, and considerably softened in its whole structure.

The physical signs may become instructive negatively and by exclusion. There will be no striking increase of volume; the apex beat will be little or not at all displaced, and more or less enfeebled; the heart sounds are weak. The concurrence of these signs with the symptoms above noted, will leave little room for doubt, especially if the patient has passed the middle term of life, and has been indolent and luxurious in his habits, or addicted to alcoholic beverages.

In the treatment of fatty growth and degeneration, our objects are threefold. 1. To diminish the effects of cardiac debility. 2. To give tone to the organ. 3. To arrest the accumulation of fat. To fulfill the first indication, cardiac stimulants are required, such as alcohol, ether, and ammonia, which relieve the paroxysms of dyspnœa, syncope, etc., and possibly prevent the apoplectiform coma, which is alleged to attend it. Revulsives are useful. Digitalis and its kindred remedies are of doubtful effect. The second will demand an appropriate system of diet and regimen, and judiciously regulated exercise. Quinia, bitters, and the mineral acids may be employed, and iron, if there be anæmia. Thirdly, the fatty growth—or, to speak more properly, the adipose blood-crasis—may be controlled by the institution of a proper diet, conjoined with habits of exercise. Meat, bread, non-farinaceous vegetables, should be chosen; oily and sugary substances avoided; and potatoes and rice, as highly farinaceous, taken sparingly. Arrest of progress is all that can be hoped for; the lesion is incurable.

Softening of the heart may be said never to occur idiopathically. It is among the changes liable to take place in the course of fever, especially in typhus and typhoid. It results from inflammation, and can scarcely fail to follow fatty degeneration. In acute or febrile softening, the external muscular layer of the left ventricle has lost all traces of its original structure, and become infiltrated with an adhesive gummy liquid. We know little of its pathological character; it is non-inflammatory, and does not necessarily lead to serious consequences. It calls for the use of diffusible stimulants.

Induration of the heart is extremely rare, and may be regarded as a mere pathological curiosity. The diagnosis is impossible, and the lesion irremediable. The nature of the change differs in the different examples. Mere condensation, cartilaginous hardening, calcification and ossification are described.

Cardiac aneurism is a pouch-like dilatation, usually seated in the left ventricle, very seldom in the left auricle. It is an extremely rare lesion.

The aneurismal sac, varying in size from that of a small nut to that of the heart itself, consists of layers of condensed fibrin, and contains coagula, and is sometimes studded with calcareous matter. It may be associated with enlargement of the heart, and it is supposed may arise from abscess of the walls of the organ. It may end in sudden death. It does not admit of diagnosis, and is incurable.

Rupture of the heart is perhaps never spontaneous, or the result merely of muscular action. It is incidental to different modes of lesion, most frequently to fatty degeneracy. Its seat is ordinarily the left ventricle. We have alluded to a case in which the opening in a fatty heart was in the right auricle. This was in a female greatly emaciated; but the majority of subjects are males. Prof. Flint met with an instance in which the seat was at the upper part of the right ventricle. The accident is of course fatal, and the diagnosis conjectural.

Carcinomatous and tuberculous deposits are noticed under this head. As unattended by any distinctive symptoms, and very rare, they are considered as of little interest or importance in a practical point of view.

Our author next goes on to treat at length, and in full detail, of the lesions affecting the valves and orifices of the heart. These lesions are interesting and important in many relations, and must be carefully studied. They occur chiefly in the left half of the organ, and are either mitral or aortic; the tricuspid and pulmonic rarely becoming affected after birth.

Aortic lesions generally, but not always, affect each of the three semilunar segments. They may be simply thickened and contracted, or may present on their surfaces vegetations or excrescences varying in size. He once saw fibrinous masses hanging from them downward into the ventricle an inch long. These may be firmly attached, or loose; if washed along with the current of blood, they form the embolia of Virchow and other recent writers. Other morbid growths, cartilaginous and calcareous deposits, may take place at the margin. Occasionally the segments become united at their sides, and, remaining expanded, thus diminish the orifice, as he has seen, to the size of a small crow-quill. These segments may become attenuated and cribriform, and may be ruptured or torn away from their attachments. Mitral lesions are essentially the same; thickening and contraction of the valve, calcareous rigidity, adhesions, vegetations, and excrescences, etc. This valve, however, is subject to aneurisms or circumscribed dilatations, forming pouches protruding into the cavity of the auricle containing coagula or fibrinous laminæ.

The pathological effect of these lesions is threefold: first, obstructing the direct blood-current; second, inducing insufficiency, and thus allowing regurgitation; and third, interfering with the action of the valves by roughening their smooth surfaces. With his usual forethought, Prof. Flint reminds the reader, while observing upon the comparative unimportance directly of the last of these three conditions, that there exist abnormal states, which he must recognize for the physical signs which they give rise to, even if they are not of immediate pathological consequence.

Obstruction and insufficiency may exist separately, but generally concur. Aortic and mitral lesions also are usually met together, but not always. In Prof. Flint's experience, the mitral slightly predominate—a fact which somewhat surprised us. He considers that the changes may be either exudative, organizable and organized, or of fibrinous character, concretion or deposit, probably not organizable. The production of these latter is favored by certain blood-crases, such as the superabundance of the fibrinous element occurring in acute rheumatism. These deposits undergo metamorphosis by the elimination of certain constituents and the addition of others, thus becoming calcareous and rigid, attenuated, perforated, ruptured. Inflammation leads to deposit, both by exudation and coagulation, especially that form connected with acute rheumatism.* But it is not probable that the lesions originate always in inflammation. An exudation similar to arterial atheroma is sometimes the first event; nor is attenuation dependent on inflammation, but on atrophy.

The disturbance of the circulation, the primary effect of these obstructions or regurgitant lesions, gives rise to a train of secondary or remote pathological consequences, manifesting themselves locally in the heart itself; generally in the wide distribution of the vascular system, and spreading to the respiratory, nervous, digestive, and genito-urinary: in which order our author discusses them.

Sooner or later they lead to enlargement of the heart, by inducing over-distention of the cavities and over-excitement of the organ. The ordinary manner in which this result takes place is given. Mitral lesions first dilate the left auricle; next, the right ventricle; next, the right auricle; lastly, the left ventricle. This rule, however, is subject to variations. Thus the left ventricle is sometimes diminished in size when the rest of the organ is enlarged—a fact explained by the diminished supply of blood received when the mitral orifice is greatly obstructed.

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* In a valuable note the proportion is thus stated: Of 61 cases of valvular lesions, rheumatism is recorded to have occurred previously in 43. Of 29 cases of mitral lesions, it had occurred in 20. Of 14 cases of aortic lesion, in 7. Of 18 cases of concurrent lesion, both mitral and aortic, in 16.

Nay, the mitral orifice has been reduced to the size of a crow-quill, without notable enlargement of any of the cavities.

Enlargement from aortic lesions always commences at the left ventricle. Obstruction without regurgitation produces hypertrophy; when regurgitation predominates, there will be dilatation.

Concurrent causes modify the result of lesions; thus if there be true pulmonary emphysema, the enlargement of the right will be as great or greater than that of the left ventricle. Nor is the enlargement always proportioned to the obstruction or insufficiency observed—a point much dwelt on by Gairdner, who gives some extraordinary examples in illustration.

In considering the influence of the rare structural changes in the tricuspid and pulmonary valves, Prof. Flint regards it as reasonable to presume, with Hunter, that the difference of arrangement between the mitral and tricuspid valves has some important object; and with Adams and King, that it is not improbable that this object is to permit a certain amount of regurgitation.

Obstruction of the coronary arteries, which he includes among the effects of valvular lesions, he ascribes to the encroachment of masses of fibrinous or calcareous deposit over their mouths, or within these vessels. Enfeebled muscular action and impaired nutrition must be the consequence.

Here also he treats of cardiac pain, palpitation, abnormal pulse, venous turgescence and venous pulsation. Pain, he affirms, is not a prominent symptom of vascular lesions; nay, absence of pain is the rule. Even when endocardiac inflammation is present, no form of pain, tenderness or soreness is always attendant. A sense of constriction, uneasiness or indefinable distress is oftener met with, but must not be thought distinctive of organic disease, being quite as likely to occur in connection with merely functional disorder. Palpitation is not, at least until the more advanced stages of enlargement, a constant symptom; the patient may not notice it, even when it is objectively marked; other things being equal, it is proportioned to the hypertrophy of the left ventricle. In functional disorder it gives great anxiety and alarm; and, therefore, if much complained of, it gives presumption against the existence of organic disease.

The pulse will be weak in general proportion to the degree of regurgitation, and this feebleness will be in contrast with the impulse of the heart felt at the præcordia. Mitral contraction renders the pulse not only weak, but often intermitting, irregular, and unequal. Intermission may be observed when the apex beat is uninterrupted, the wave passing through the contracted opening being too small to be appreciated. Our author repeats the statement found in the books, that there are instances in which the pulse, intermittent in health, ceases to be intermittent in disease attended by febrile movement, the intermission returning with the restoration of health. We will deny no fact, however mysterious and improbable, when observed and asserted by competent authority, and will yield our skepticism before a single case recorded in detail by Professor Flint. But we are not clear that he affirms himself to have been a witness here, and we are not convinced by the vague rehearsal of such strange things; waiting until a definite example has been properly watched and noted.

Among the other modifications of pulse, under these contingencies, the author is disposed to agree with Dr. Henderson, in regarding the prolongation of the interval between the radial pulsation and the heart's impulse, as significant of aortic regurgitation. He met with an instance in which this interval was longer than that between the first and second sounds of the heart; the radial pulse being, in fact, in much closer relation to the diastole than to the systole.

The turgescence of veins, and venous pulsation, though wanting in precise diagnostic significance, possess considerable value when taken in connection with the physical signs which establish the nature and seat of organic lesions. They manifest an influence on the systemic circulation, which involves a liability to other morbid results, dropsy, hemorrhage and extravasations. The diastolic movement of the veins in venous pulsation is due to a retrograde current, impressed by the contraction of the right ventricle. Not uniformly confined to the veins of the neck, it is rarely seen except in the jugulars, and is usually observed on the right side. The cervical veins may, however, pulsate under the contraction of the right auricle also; an interesting subject, as our author thinks, for further clinical study.

Of the diffused vascular disorders developed as ulterior results of vascular lesions, cardiac dropsy receives the first notice. This serous exudation affects the several cavities with a frequency, stated in order, as follows: the peritoneal, pleural, pericardial, arachnoid, subarachnoid, and the tunica vaginalis. The last of these must be rare. We have never found it associated with general dropsies. The exudation, or exosmose, is the simple consequence of the mechanical pressure on the distended coats of the vessels; thus they are rendered permeable to the serous or watery portion of the blood. The relation between the degree of the valvular lesions, and the dropsies which follow them, is liable to be greatly modified by concurrent conditions in the system. The principal of these is disease of the kidney, renal and cardiac dropsy being thus combined. Anæmia or hydræmia also aids to determine the occurrence of dropsy.

Embolia engages our author's attention for a moment. The detached deposits, migratory plugs, or *emboli* of Virchow have but recently attracted the notice of the profession, and as yet not much is definitely known concerning their pathological history. His extensive reading affords some interesting observations on the subject, which needs, however, further inquiry and elucidation.

The engorgement of the lungs arising from valvular lesions gives rise to dyspnœa, cough, and hæmoptysis, pneumorrhagia and œdema. When the dyspnœa comes on in paroxysms, it constitutes cardiac asthma. It is greatly modified by coincident affections, as emphysema, pleuritic effusions, etc.

Professor Flint does not admit the truth of the common impression that cerebral disorders in general belong to the history of cardiac disease. He affirms on the contrary that they occur in only a small proportion of cases, and that, even if they were more frequently present, they would possess small diagnostic significance.

A certain amount of headache, vertigo, tinnitus, dullness and drowsiness may occur in cases of valvular lesion, on account of abnormal fullness of the cerebral veins. Sleep is frequently imperfect, and disturbed with bad dreams; but this is rather owing to the dyspnœa present than to cerebral disorder. So also of the globus hystericus noticed in some cases.

The mental condition of patients laboring under grave organic disease of the heart is characteristic. They are generally apathetic, free from apprehension, indifferent or incredulous when told of their condition. Toward the close of life there may be some degree of mental aberration, but delirium cannot be reckoned among the events belonging to their natural history.

The digestive and nutritive systems do not escape the pathological influence of the venous congestion dependent upon vascular lesions. Cook of Transylvania, as is well known, ascribed as many diseases to this venous congestion as Broussais to gastro-enteric irritation, or Brown to asthenia. But our author discriminates. He admits that morbid affections of the digestive system do not hold a prominent place here. In a large majority of the histories of one hundred cases analyzed by him, nothing of importance was noted with reference to this system. But it is not always thus. Enlargement of the liver is an effect occasionally of valvular lesions and enlargements of the heart. The augmented size of that great organ is sometimes remarkable, and its variations of bulk at different times. Jaundice may attend, but rarely. Cirrhosis is less frequent than is generally affirmed. The pressure of the portal branches or interlobular veins on the biliary tubes may however give rise to an undue accumulation of bile. Sections of the organ then present that peculiar aspect known as the "nutmeg liver."

So far from diminished nutrition being one of the pathological effects of valvular lesions, they are rather characterized by the absence of notable deterioration in that respect. When their origin dates in early life, and enlargement of the heart takes place before puberty, the body may attain to a full development.

Congestion of the kidneys is generally the result of valvular disease with dilatation of the right heart. The urine is scanty; its solid constituents relatively increased; the lithatic deposits abundant; and albumen is present. Bright's disease is sometimes associated with this condition, though less frequently than is supposed. Indeed the two affections are so rarely united that it may be doubted whether there is established any pathological connection between them.

Of the countenance and external appearance of the body in valvular disease, Prof. Flint remarks that a dusky hue of the face, combined with œdema, is quite distinctive of cardiac as contrasted with renal dropsy, altering the visage and its expression so much that the person becomes scarcely recognizable, and resembles a cadaver after strangulation. The urgent dyspnœa induces the expression of great anxiety and distress. But anæmia or renal disease, if coexisting, may make the patient pale. The capillary vessels of the surface sometimes fill and become dark from congestion; or, as our author has seen, the extremities of the fingers and palms may present permanently an erythematic redness.

The physical signs of valvular lesions are carefully detailed by Professor Flint—chiefly obtained by auscultation, in which he is thoroughly an expert. They are divided by him under the heads of—1. Murmurs, new or adventitious sounds; and 2,—Abnormal heart sounds. We are glad that he has chosen to use the English word here with Forbes, and to discard the French *bruit.*

He divides murmurs with Latham into the endocardial and exocardial, including among the former those occurring in the large arteries near the heart. These are produced by the current of blood passing through the cavities or orifices of the organ, or those vessels, and resemble the sound heard in a bellows nozzle when air is driven out. The name of bellows murmurs, generally appropriate, fails to apply to some of the intracardiac murmurs. The exact localization of each of these sounds is ordinarily practicable, and hence their high diagnostic value.

It is true that there are inorganic murmurs which are not due to structural lesions; but these, with proper knowledge and care, can be distinguished. They arise from certain conditions which can and ought to be observed and appreciated; alterations in the composition of the blood, sudden diminution in the circulating mass, and functional disorder of the heart.

It is also true that valvular lesions involving great obstruction and regurgitation may exist without murmur; but such cases are rare and exceptional; nor is the degree of murmur proportioned always to the structural change which it manifests, diminishing and perhaps disappearing as the disease progresses. After all, however, our author concludes, as it seems to us with good reason, that although the absence of murmur is not absolute proof of the non-existence of valvular lesions, yet that the chance of error arising from this cause is so small that it need not affect our diagnosis.

He divides murmurs again into systolic and diastolic; the first accompanying, replacing or closely succeeding the first sound of the heart; the second closely preceding, accompanying or following or replacing the second sound. If the heart's action be so rapid as to occasion difficulty in deciding whether a murmur belongs to one or the other of those heads, the frequency may be reduced by sedatives, such as digitalis or veratrum viride. The distinction between the two systolic murmurs is readily made; the mitral regurgitant having its maximum of intensity at or near the apex of the heart; the aortic direct being best heard at or above the base of the organ in the second or third intercostal space near the sternum. The systolic murmur is generally soft, and the pitch moderately high.

The diastolic murmurs are feeble and less strongly marked. The mitral direct has its greatest intensity over the body or apex, and just precedes the first sound of the heart. The aortic regurgitant has its maximum intensity over the body of the organ near the sternum, and closely follows the second sound. It is always soft and its pitch usually low.

Inorganic or hæmic murmurs are uniformly systolic, and usually heard at the base of the heart. They are always soft and feeble—apt to be fluctuating and variable. We may accept the rule then that a murmur, if constant or persistent, intense, rough and mitral, or heard at the body or apex of the heart, is of organic origin. Concurrent bellows murmurs from the large arterial trunks, and the *bruit de diable*, which with Ward he regards as a venous hum, are usually associated with inorganic endocardial murmur of hæmic origin.

Our author calls attention to the modification of heart sounds connected with valvular lesions, as aiding us to localize them distinctly. Mitral lesions impair the mitral portion of the valvular element of the first sound. To isolate this sound, the stethoscope is to be placed without the left nipple sufficiently to eliminate the element of impulsion. They also lead to diminished intensity of the aortic second sound, and increased intensity, both of the tricuspid sound and of the pulmonic second sound. Aortic lesions impair the aortic second sound and even extinguish it.

Well-marked purring tremor, *fremissement cataire*, denotes valvular lesion, chiefly of the mitral orifice permitting regurgitation, and associated with hypertrophy of the left ventricle.

Of the prognosis in cases of valvular lesions, our author speaks with his usual caution. They are not necessarily fatal—nay, they often produce little or no inconvenience. He gives instances, one of them truly wonderful, of this tolerance. We are familiarly acquainted with an example of similar indifference in a youth, who, with most marked signs of organic disease, takes every form of exercise and enjoys all sorts of active recreation. All cases however of such lesion must be regarded gravely and with watchful supervision.

In the management of this class of patients we must recollect that the organic changes existing are irremediable, and that the measures usually resorted to by the unreflecting practitioner with a view to the removal of morbid deposit—such as alteratives, depletants, and counter-irritation, are useless, and worse. These anatomical changes are, however, progressive, and we must endeavor to retard their increase by those indirect methods which go to prevent overstraining of the valves, and renewal of the endocardial inflammation. Excessive muscular exercise, mental emotion, and stimulants excite unduly and overtask the heart, and must be avoided. Exposure to alternations of weather must be carefully guarded against as likely to give rise to rheumatism, the source of most of these derangements.

We must, however, assiduously obviate the tendency to weakness and dilatation of the heart, and preserve as fully as possible the tone of the system, as advised in treating of enlargements of the heart.

Occasional and secondary effects of valvular lesions, depending as they do chiefly on congestion, must be met by revulsive and palliative measures. Constipation is to be corrected. Dropsical effusion will require the use of diuretics and hydragogue cathartics, the former being preferred, if the kidneys readily respond to them.

Our author advises a certain reticency as to the communications to be made to the patient concerning his condition. Where the existence of lesions cannot be denied, a candid statement should be made, accompanied with such explanations as will divest the fact of greater importance than really belongs to it.

To his friends a cautious prognosis should be given. The progress of these cases is variable, and there is obvious liability to accident and incidental affections which may prove fatal unexpectedly; but patients often live long under very serious lesions.

We will pass over the fifth chapter on congenital malformations, misplacements, and defects of the heart and cyanosis, as containing no views either new or peculiar to our author. He offers a clear compendium of the collated facts and received opinions, referring to Peacock and Moreton Stillé, principally and frankly.

Next we have some ingenious reasonings on the subject of heart-clots and coagula, polypi so called, of ante-mortem and post-mortem formation. Our author does not doubt that coagulation takes place before death in certain cases, and suddenly arrests the circulation. This accident is supposed by our highest obstetric authority, Professor Meigs, to account for the quasi syncopic deaths occurring in certain puerperal cases attended with large hemorrhage. But Dr. Flint declares that such instances can be only conjectured, not positively known, as the clots found in the cavities of the heart do not differ from those formed by coagulation in the dead body.

Coagula formed before death are known by their density, the absence of red globules, their intertwining with the tendinous chords and fleshy columns, adhesion to the pericardium, and certain changes impressed upon the structure externally by the blood currents and internally by molecular disintegration. Professor Flint regards the fibrin of the blood as incapable of organization, and therefore is led to explain the instances in which these fibrinous masses seem grafted into the heart, by the supposition that the coagulated fibrin is deposited on an organized exudation of morbid growth. We do not consider the question, as to the character and capabilities of fibrin to be as yet absolutely settled; and if Virchow is right as to the unequivocal dependence of cell upon pre-existing cell, of ovum upon pre-existing ovum, we can as readily comprehend the growth of fibrinous strips, or masses, as of any other morbid products. Perhaps it is correct to say that we do not yet comprehend the point of departure in any morbid growth.

These fibrinous coagula are specially liable to be deposited during the progress of certain affections characterized by the presence of an undue proportion of this element in the blood, as in pneumonia, in epidemic cholera, and in endocarditis. An extraordinary case is described, in which the obstruction of the right auriculo-ventricular orifice was complete; the curtains of the tricuspid valve being literally tied firmly together by a dense colorless fibrin, intertwined with the tendinous chords and papillary muscles, and prolonged into the right auricle. The subject was found dead in his bed; but the heart was not enlarged, the valves were sound, and there were, except as described, no other morbid appearances. Neither the symptoms nor the physical signs are distinctive or diagnostic of these conditions. If we could distinguish them, the prognosis would be in the highest degree unfavorable, and all suggested treatment must be nugatory. Yet our author concludes, perhaps with a pardonable inconsistency, as it involves the only faint gleam of hope for our patients, that it is not improbable that certain remedies may favor the solubility of fibrin; and that as the researches of Richardson have led us to look upon its solution in the blood as owing to the presence there of ammonia, it would seem to be a reasonable inference that ammoniacal remedies may be efficient prophylactics.

Polypi are, though rarely, found in the heart, but are not to be confounded with heart-clots or fibrinous coagula. They are true pedunculated tumors, of fleshy or fungous aspect, and are formed slowly, their effects being developed gradually and imperceptibly. Neither the symptoms nor physical signs are at all distinctive.

A very interesting section follows, upon Angina pectoris. After a well-drawn description of the paroxysmal attacks of severe suffering, known under this appellation, Prof. Flint discusses with great ingenuity its character and relations. He affirms it to present a strongly-marked individuality. It is neuropathic; not connected essentially with any special organic change, or any of the known varieties of morbid anatomical determination. Yet he affirms it to be symptomatic of cardiac disease, and incidental exclusively to organic affections of the heart.

He distinguishes it from cardiac asthma, and maintains that dyspnœa proper does not belong to its history; the patient refraining from the respiratory movements voluntarily as he does from all other motion for fear of pain. Nor does he think it possible that spasm of the cardiac fibres should continue so long, consistently with life, as the paroxysm is known to endure. He views it therefore as a cardiac neuralgia, with which spasm and dyspnœa may be combined, and which is dependent upon unascertained cardiac lesions, but which is not in its nature connected with any one of them. He recites a case in which even the prehension of solid food determined an attack; the same miserable patient hardly daring to sleep, because even then he was liable to these paroxysms.

It is to be diagnosticated from pseudo-angina in the first place by a careful observation of its own characteristic symptoms, familiar to every reader, and therefore not repeated here; and in addition, by observing the usual connection of the neuralgic pains which simulate its paroxysm with the other marks of associated diseases, hysteria, dyspepsia, gout, anæmia, etc. There is less intense anguish, less immediate expectation of death; the attacks are not so abrupt, and continue longer; nor are the evidences of cardiac disorder so manifestly present.

In the treatment of angina pectoris immediate relief must be sought from opiates and diffusible stimulants. From the earliest discovery of chloroform we have been in the habit of employing it freely and with more benefit than any other or all other remedies put together, and Professor Flint mentions the marked relief produced from it in his severest case.

But it is evident that these, however efficient, are only palliative agents; we are yet unable to point out any truly preventive, or curative course of management. Happy he who shall make such useful discovery here. At present all we can do is to avoid as far as practicable all exciting causes which bring on the dreaded paroxysm; address ourselves to the diminution of the influence of coexisting cardiac or other disorder, and endeavor to keep up the tone of the constitution.

Next we have some curious remarks upon the enlargement of the thyroid body and prominence of the eyes, associated occasionally with cardiac affections. To the list of such cases, our author makes three additions; and we have more than once examined a similar instance in the wife of a brother physician, in which the gland is protuberant and the eyes project, with an obliquity of the axis of one of them.

The pathological character of these affections is as yet undetermined, and the nature of their connection with each other and with the morbid changes in the condition of the great central organ of circulation not understood. The treatment of them must be directed by a due attention to the coexisting morbid contingencies, of which anæmia, and in females, who constitute the great majority of subjects, disorders of the menstrual functions are the chief.

Reduplication of heart sounds constitutes the next topic of discussion. Its limited pathological import and want of diagnostic signification are fairly stated, while the mechanism is reasoned out with extreme plausibility from minute observation. The interest belonging to this subject, says our author, if the antithesis be allowable, is rather scientific than practical. He is not satisfied with the explanation of the phenomena on the supposition of mere non-synchronism of the contractions of the ventricles, although he admits that this want of unison is the most plausible hypothesis. The most remarkable example is one given by him, in which there existed, for seventeen days, four heart sounds for each pulse at the wrist; but the carotid was precisely twice as frequent as the radial pulse.

The patient, a sailor, aged twenty-seven, labored under a cough, with dyspnœa and some œdema of the face and lower limbs. He recovered after two months' residence in hospital, and died five years afterwards with some affection foreign to the heart. His body being examined, the organ was found moderately enlarged, without valvular lesion. During the illness above mentioned, the apex beat was not appreciable, though a feeble, short bellows murmur was heard at the apex; the heart being evidently enlarged. This murmur had disappeared, and the pulse and heart sounds were in normal ratio when he left the hospital.

The inflammatory affections of the heart are divided by Professor Flint, as is usual, into pericarditis, endocarditis, and carditis proper or myocarditis; the latter implying inflammation of the muscular substance, the others of the serous membranes investing and lining the organ.

Less frequent than endocarditis, pericarditis is a more serious and dangerous affection. It is not often idiopathic or insulated; and occurs both as acute and chronic. It is rarely fatal at an early stage. When this has happened, the membrane has been found reddened, mottled, and injected. It is opake, abnormally dry, or glutinous with the presence of lymph, which is soon deposited in a thin layer spread over the surface; this exudation going on, a serous liquid accumulates within the sac. If the patient do not sink at once, this liquid is gradually resorbed, and, the diseased surfaces of the sac falling into apposition, adhesion takes place.

This succession of events suffices to divide the attack into three stages: the first extending from the access to the point of time at which serous accumulation is determinable; the second embracing the period during which the amount of liquid is appreciable; and the third comprising the duration of the disease after its resorption.

In the majority of cases of fatal pericarditis, death occurs during the period of effusion. This is more or less prompt and rapid, having been distinguished within twenty-four or thirty-six hours, but not generally until three or four days have elapsed. In some cases from four to six ounces of fluid may be determinable; but the distention is sometimes enormous, as in a case reported by Swett, who found eight pounds within the sac. This great accumulation belongs, however, rather to the chronic than the acute form, in which it rarely exceeds two or three pints.

The adhesions which take place in more protracted attacks are either mechanical or by means of organization. Layers of lymph, simply agglutinating the sac to the heart with a certain force, never take on organization, and are called properly false membranes. But sometimes the intervening deposit of lymph is less abundant and dense, newly organized structures are formed, and adhesion takes place by a vital union, which may be so complete as totally to obliterate the pericardial sac. Our author met with a case in which adhesion had occurred over the left half of the organ, and a large amount of fluid was contained in the right half of the sac. The strength of these adhesions is the test of their duration or age.

The pathological relations of acute pericarditis are extensive and important. It is seldom primary or idiopathic. Its most frequent connection is with rheumatism: the ratio, according to Fuller, being about one in six cases. Our author gives the proportion of six in nineteen, recorded by himself. It most frequently manifests itself in early life and in first attacks of rheumatism, and more in females than in males. He met with one instance in which it preceded, and another in which it occurred coincidently with the affection of the joints. The nature of the relation is not clear. It is not a metastasis; each being the local expression of a constitutional affection, probably involving undefined blood changes.

With Bright's disease, also, pericarditis has an ascertained relation, somewhat better understood. The intermediate morbid condition determining the serous inflammation is supposed to be uræmia, the urea in the blood or the results of its decomposition acting with poisonous efficiency.

The coincidence, frequently observed, of pericarditis with pleuritis, or pleuro-pneumonia, our author regards as merely incidental, and dependent equally upon some common causative contingency. They are not always continuous, the pleuritis being sometimes on the right side.

Pyæmia frequently coexists with pericarditis in fatal cases. The eruptive and continued fevers also occur in the same complication, though rarely. Our author met with an instance of the development of pericarditis in scarlatina, being preceded by albuminuria and general dropsy. It has been met with in connection with scurvy, purpura, cyanosis, erysipelas, influenza, and tuberculosis of the lungs. Yet Professor Flint thinks that neither the tuberculous nor the carcinomatous cachexia gives rise to inflammation of the pericardium, except in the very few instances in which tubercle is deposited upon this membrane. Endocarditis coexists in a very large proportion of cases of pericarditis; almost without exception in rheumatic subjects.

The symptoms of pericarditis, as they affect the heart itself, are, pain in that region, palpitation, and tenderness on pressure. The general circulation is modified by the series of changes which take place; at first the pulse is strong, quick, vibratory, frequent, and irregular; when the movements of the central organ are restrained by the pressure of effusion in the sac, it is notably small and weak, with marked disturbance of its rhythm. It varies greatly at times, without obvious cause. Lividity of the lips and face may be due merely to the oppression of the heart's action. Œdema, in general, implies coexisting renal disease, or organic cardiac lesion. The respiration is variously affected; there may be notable dilatation of the alæ nasi; cough is commonly but not uniformly present; dyspnœa may be wanting, though a usual concomitant, even in the degree of orthopnœa. The digestive system is sometimes so greatly though incidentally disturbed that the vehement and persisting vomiting has occasioned the attack to be mistaken for gastritis. Dysphagia is also of occasional occurrence.

There is frequently a marked expression of anxious apprehension in the countenance, and late in severe cases the risus sardonicus is seen. The position of the patient is usually on his back, inclining to the right, and he is very reluctant to move. Fatal syncope is sometimes suddenly induced by rising.

Professor Flint draws attention to the disorders of the nervous system associated with pericarditis. Cerebral symptoms are not seldom developed which are not only highly important in themselves, but especially as marking the symptoms of cardiac disease. Inflammation of the meninges of the brain, mania, dementia, coma, epilepsy, tetanus, and chorea, have been simulated in cases of pericarditis; the latter disease being generally overlooked before death, and examination *post mortem* revealing no appreciable lesions of the brain or spinal cord adequate to explain the phenomena during life. Our author recites three cases of curious interest: two of them fatal; the third recovering from an attack of fearful violence. Among the forms of delirium observed here, a fixed delusion of having committed some crime appears to be a distinguishing feature. Of the nature of the pathological connection assumed to exist between these morbid affections, we know but little. They concur too often to be mere coincidences. The nervous symptoms are to be regarded as functional, not leaving any palpable traces in the brain or spinal cord. They are probably the results of a common causative influence.

Of the physical signs of acute pericarditis, we have a summary which it is difficult to abbreviate without losing something of its admirable clearness.

Percussion shows an enlarged area of præcordial dullness, extending more vertically than transversely, the dullness and sense of resistance being greater than in enlargement of the heart. These signs indicate abundant effusion within the sac. We note the prompt and rapid increase of the area of dullness, within a few hours or days, as showing progress of the disease; and diminution of that area proportionally, in the progress toward convalescence.

Auscultation detects a friction sound, developed soon after the commencement of the attack, depending generally on the effusion of lymph; rarely wanting in the first stage; frequently but not uniformly disappearing during the second, or period of effusion; often returning after the absorption of the fluid, and persisting even when adhesions have taken place. The heart sounds are at first intensified and then become weaker; the element of impulsion in the first sound impaired or lost, and the valvular left alone; the sounds apparently distant, and more so in some positions than others. The respiratory murmur and vocal resonance are lost over the enlarged area of præcordial dullness determined by percussion.

Palpation discovers the cardiac impulse at first unduly violent, forcible, sometimes tumultuous, extending abnormally. After effusion, the apex beat is raised and carried to the left, and suppressed if the effusion be large. There is vibration of the thoracic walls in the præcordia, constituting tactile friction-fremitus. The apex beat is in some cases notably retarded by a certain amount of effusion. Resorption allows the return of the apex beat to its normal position and conditions.

On inspection and mensuration we shall find distinct prominence of the præcordia, with restraint of the respiratory movements of the left side from pain or large effusion. Depression of the præcordial region follows in some cases the resorption of the effused fluid.

The diagnosis of pericarditis can only be effected by careful physical explorations. These will suffice to distinguish it from all morbid affections, except hydro-pericardium without inflammation. And even here, though the same marks of distention be present, we separate them by noting the friction sound seldom wanting, and collating the attendant symptoms—pain, tenderness, febrile movement. In hydropericardium there is no friction sound; œdema or anasarca, ascites and hydrothorax are present.

The prognosis is laid down with habitual caution. The attack of pericarditis is never trivial, often formidable. Its mortality, however, is generally due not so much to the disease itself as to associated circumstances. It rarely proves fatal as connected with rheumatism; its combination with Bright's disease is almost invariably so.

Its ordinary duration is from one to two weeks; it has terminated unfavorably in twenty-seven hours. If protracted, it runs into the chronic form. The termination of fortunate cases is apt to be attended with adhesions.

The mode of death, in acute attacks, is by syncope or gradual asthenia; the arrest of the circulation, owing to paralysis of the heart, oppressed by the effusion and influenced by the proximity of the inflamed membrane to the muscular fibres of the organ. Concomitant affections, however, may determine the fatal result, as by coma, apoplectic or uræmic.

In the treatment of acute pericarditis, our author permits the reticent employment of the lancet, though rarely; mercurialization he refuses to condemn utterly, discriminating in its favor in idiopathic and rheumatic cases, and denouncing it as inappropriate in anæmia, and where Bright's disease exists. Sedatives are rarely indicated, and only admissible before effusion. Revulsive measures, such as sinapisms, fomentations, are useful in the early stage. Vesication, at a late stage, he thinks promotes absorption. Opium should be given in doses sufficient to tranquilize and to relieve pain. Eliminatives are appropriate, under due restrictions, where the disease is dependent on rheumatism or uræmia. The most prominent of these are the various diuretics, the alkalies, and colchicum. Cathartics and sudorifics are of doubtful utility.

In the progress of the attack a nutritious diet must be given, and diffusible stimulants as freely as they can be well borne. Alcoholic fluids, either wine or spirits, are the best and most efficient of these. Animal essences or tender animal solids must constitute the diet generally.

To promote the complete disappearance of inflammation, and thus expedite the process of resorption of the liquid effusion, we must persist in counter-irritation, by perpetuated blisters, and pustulation with croton oil. We should take care not to press these measures so far as to produce constitutional disturbance or exhaust the patient.

In subacute or chronic pericarditis, the cases present very different anatomical conditions. These our author arranges into two classes, viz.: 1st. Absence of liquid effusion, the pericardial surfaces being agglutinated by interposed layers of lymph, of variable thickness, with imperfect organized attachment, or none. 2d. More or less distention of the sac with turbid serum, or puruloid or truly purulent liquid.

When without effusion, these cases are obscure. Acute pain is rarely present; nay, there may be entire absence of all subjective symptoms. An uneasiness and constriction are apt to be referred to the præcordia, and palpitation with dyspnœa follows muscular exertion. Lymph is abundantly deposited in layers, which may be peeled off the heart's surface. These layers are dense, and of quasi membranous structure, but are not organized; they adhere to the visceral and parietal surfaces of the sac, perhaps firmly, but by mere mechanical agglutination. Friction sounds are sometimes heard. Cases of the second class, with effusion, are more readily known. The amount collected is sometimes enormous, and the symptoms produced such as have already been recited.

To what has been said on the subject of treatment above, may be added the suggestion of the external application of iodine in the first class of cases, and perhaps its internal use also as sorbifacient or promotive of the removal of the morbid deposits. When the pericardial sac is largely dilated, it is proposed to empty it by paracentesis. Aran has had the boldness to inject, after drawing off the liquid, a solution of iodine, and it is said with apparent benefit.

A brief section on pneumo-pericardium and pneumo-pericarditis contains the history of some examples of these rare affections. Air or gas may gain access within the sac by fistulous communication with the stomach, intestines or lungs; or through perforating wounds; or as generated in the cavity. The physical signs which attend these uncommon accidents are—metallic tinkling, a splashing or gurgling sound produced by the heart's action, tympanitic resonance, and the bruit de pot fêlé on percussion.

Pericardial adhesions are very frequent as consequent on inflammation of the sac—nay, it is doubtful whether recovery can take place without them. They may be general or partial, the former occurring most often. They are found associated in a certain proportion of cases with valvular and other cardiac lesions; and also, not seldom, when there has been no suspicion of cardiac disease. In the discussions concerning their influence and importance, so warmly entertained, our author is led to agree with those who consider their evil tendency to be far less than was supposed by Hope and the older pathologists. He does not deny that they may contribute to enlargement of the heart in a certain proportion of cases; nor that in rare instances they may tend also to an opposite result; but declares that they exist not unfrequently, for a long period, without being followed by any appreciable morbid condition, or the production of any organic change or functional disturbance.

To the question, how their existence is to be ascertained during life, he answers, that the diagnosis cannot be always made with positiveness, but that the physical signs may in a certain proportion of cases be relied on with much confidence; and points them out as follows: the area of præcordial dullness on percussion being fixed and unaltered by changes of posture, and unaffected by inspiration, however deep; the limits of the respiratory murmur not affected by a deep inspiration; the apex beat affected slightly or not at all by changes of posture or forced respiration; retraction of one or more intercostal spaces, together with the ribs, in some cases, and depression of the epigastrium synchronously with the heart's systole. The inference drawn from these signs will be confirmed, if there be contraction of the chest, limited to the præcordia, and if we learn that the patient has formerly suffered from pericarditis or from acute rheumatism.

Endocarditis, recently recognized with nosological distinctness, now known as not infrequent, is next fully treated of. Its coexistence with acute rheumatism, in a large proportion of cases, is considered by our author to be one of the most important developments of modern medicine. Its remote effects in the production of valvular lesions, already discussed, invest it with great interest. We rarely meet with a case proving fatal in its early stages, and therefore know less of the morbid appearances presented during its progress than of its ultimate results. It is chiefly seated in the left side of the heart, and is generally limited to these portions of the membrane covering the valves and lining the orifices. This is attributed to the anatomical fact, that it is here underlaid by fibrous tissue, while elsewhere it is in proximity to the muscular substances.

Professor Flint lays no stress upon the redness of the membrane as an evidence of inflammation, but dwells rather on the structural changes of condition. These are roughness, villosity, opacity, swelling and softening. Atheromatous deposit and hypertrophy of the endocardium, as arising from morbid processes, not inflammatory, and ancient inflammation, are to be distinguished from the above. The membrane is in direct contact with the blood, and not being a shut sac, like other serous tissues, presents two sources of morbid deposit or product. Besides the ordinary exudation of lymph occurring here, as in all serous inflammations, the fibrin of the blood is liable to be deposited by coagulation, to attach itself to certain points, and again to be detached and washed away into the circulating current. The two deposits become mingled; the roughness from the exudation of lymph or other alteration of the membrane attracts, as a foreign substance, and retains the fibrin thus precipitated or coagulated. The exudation of lymph is more unequivocal evidence of inflammation than the deposit of fibrin. Other morbid changes still are met with, as ulceration, erosion, perforation and laceration of the valves, and occasionally gangrene.

Endocarditis is rarely idiopathic, and seldom occurs, indeed, in any other connection than as associated with acute articular rheumatism. Our author announces the opinion—we cannot help hoping, somewhat more unfavorable than the general experience of our country will warrant—that in any case of that affection the chances are about equal that the endocardial membrane will become involved. Authorities differ as to the relation between endocarditis and pericarditis. Our author agrees with Hope, that the former is more apt to occur alone of the two, but affirms their not infrequent combination. Like pericarditis, it is liable to be developed in connection with Bright's disease, and this uræmic form is much more likely to prove fatal than the rheumatic. Pulmonary inflammation exerts some influence, too, though feeble, in determining the occurrence of endocarditis.

The formation of coagula in the cavities of the heart is among the immediate pathological effects of inflammation there. These heart-clots and the emboli, consisting of detached masses of lymph or fibrin, or both, propelled into the arteries with the blood current, and carried in the smaller vessels, thus producing obstruction, are supposed to give rise to apoplectic and epileptiform seizures, paralyses, etc. The liability to their occurrence should be kept in mind; but it must be rare, in view of the fact that endocarditis is fatal in so very small a proportion of instances.

The diagnosis of endocarditis rests on physical evidence, and this consists in the development of endocardial murmur, in connection with symptoms fixing its significance; as, chiefly, the presence of acute rheumatism. With commendable frankness, Professor Flint acknowledges that he is unacquainted with any method of recognizing idiopathic endocarditis, which, however rare, occurs in children, as there is reason to believe, without being detected.

In the treatment of this affection, our objects are the abatement of the intensity of the inflammation, abridging its duration, limiting the exudation of lymph and precipitation of fibrin, and effecting the removal of solid deposits. The measures adapted to attain these purposes are those indicated in the treatment of pericarditis, and must be employed with the same cautions and limitations; blood-letting and other antiphlogistic remedies, mercurials, opium, sedatives, eliminatives, and counter-irritants. We are warned against the error, not seldom committed, of persisting in the application of these means of combating inflammation, long after it has ceased, although it is not always easy to determine when that period has arrived.

Myocarditis, inflammation of the muscular substance of the heart, is so seldom met with, that very few cases are on record. Its presence cannot be brought within the reach of diagnosis, nor, if we could recognize it, would there be any peculiarity of management suggested.

The ninth chapter is devoted to functional disorder of the heart, the several forms of which are briefly but graphically described. It is usually paroxysmal; the movements of the organ being irregular and tumultuous, sometimes intermittent. There is great despondency and fear of impending death. The paroxysms differ in severity, and vary in duration from a few seconds to several hours. The immediate exciting causes are muscular exertion, mental emotion or passion, ingestion of food or of stimulants. We meet with rare cases of merely persistent inordinate action, in which there is abnormal rapidity and force without marked irregularity of any kind. Again, there is great feebleness of contraction, with tendency to syncope—tremulousness or interruption.

These phenomena present themselves as connected with plethora, anæmia, nervous derangement, dyspepsia, and the gouty diathesis. They may be noticed during rapid growth and in convalescence from fevers.

There is nothing specific in the treatment, which must be directed to the contingencies upon which these disturbances are dependent.

A careful diagnosis is required, and must be obtained by physical exploration, collated with minute recognition of collateral details. This diagnosis involves more than the mere question of the presence of organic disease, which may perhaps be readily answered negatively or affirmatively. But we must not lose sight of the fact that functional disorder and organic disease may be associated, and yet the former not be dependent on the latter. We are led to this favorable inference by the following considerations. The disturbance is disproportioned in degree to the ascertained anatomical changes; it is paroxysmal, with intervals of complete or great relief; it is more likely to happen in the young and in females; attacks come on at night, or upon the application of obvious exciting causes; there is not likely to be any lividity, nor œdema, nor general dropsy.

Under these circumstances we may venture reasonably upon a favorable prognosis, for experience has proved the falsity of the supposition formerly entertained, that functional disorder, if protracted, eventuates in organic disease. There is no ground for the belief. For the palliation or arrest of the paroxysms above described, opiates are advised, antispasmódics, carminatives, revulsives, and, if the patient be feeble, stimulants.

The book concludes with a notice of diseases of the aorta, and thoracic aneurisms.

Acute aortitis cannot be diagnosticated; nor do symptoms or physical signs furnish the means of recognizing, during life, the subacute or chronic form of inflammation of the great artery. But we meet in post-mortem examinations with many anatomical changes, ascribed to this latter as a cause. Morbid deposits are often found, chiefly but not exclusively in aged males, situated upon the internal surface of the vessel, forming patches of a white, dense substance, membraniform, or of cartilaginous firmness. The union, though close, is not of organized attachment.

Still more common is the deposit known as atheroma. It is more or less hard or soft, even semi-liquid sometimes, and forms patches of various dimension. The microscope shows it to contain oil globules, with crystals of cholesterine. It is a variety of fatty degeneration, and is often associated with fatty heart. It becomes the seat of calcareous deposit, and thus the patches are transformed into plates or masses resembling bone; true ossification, however, does not occur.

Of these changes, a not infrequent result is dilatation of the ascending aorta. This may be known, according to Bellingham, by the characteristic signs of visible pulsation of the large arteries of the neck and upper extremities, with a pulse, at the wrist, jerking or receding. Our author speaks with less confidence of the diagnosis.

Among the various forms of thoracic aneurisms, scientifically known and described, Prof. Flint treats only of those which are distinguished as sacculated. To be recognized, they must have attained considerable bulk, and their situation chiefly determines their symptoms and signs. They are seated ofttimes in the ascending aorta; next in the arch; and less frequently in the descending aorta. They occur at the sinuses, behind the semilunar valves; rupture takes place readily, on account of the absence of the cellular coat of the vessel at this spot, and death is sudden. Diagnosis here is impossible. Of two cases happening under the observation of our author, one had been, up to the time of death, in apparently perfect health; the other had recovered from an attack of pleurisy. No symptoms in either had indicated disease of the heart or large vessels.

Thoracic aneurism generally shows itself by the bulging of an external tumor—conical, smooth, pulsatory. Pulsation is often felt before any protrusion takes place; it is sometimes, though rarely, wanting. There is often, but not always, tactile fremitus. The bellows murmur is heard usually, upon auscultation, over the tumor, but is of less value as a sign than has been generally supposed. It may be single or double. There is wheezing or stridulous breathing, from pressure on the trachea; a bronchus may be so compressed as to arrest respiration in an entire lung. Dysphagia may arise from obstruction of the œsophagus; aphonia, or hoarseness, from interference with the larynx. Paraplegia follows erosion of the vertebræ and pressure on the spinal cord. Hemiplegia has been known to attend, whether as a mere coincidence or as the remote effect of disturbance of the cerebral circulation.

The mode of death is usually by rupture or opening of the aneurismal sac, and prompt hemorrhage. But, in some instances, pressure on important parts—the trachea, bronchi, lungs, œsophagus, spine, vena cava, and pulmonary artery—occasions an earlier termination. This may also depend upon emboli, detached from within the sac.

Recovery from thoracic aneurism is possible, but hardly possible.

When a spontaneous cure has taken place, the sac, filled with fibrin, and remaining attached to the artery, presents the appearance of an extraneous tumor, and undergoes obvious reduction in size, in progress of time, from the contraction of the fibrin.

The treatment of these cases must depend on circumstances. A plethoric patient must be cautiously depleted; in anæmia, we must prescribe a nutritious animal diet, with iron, and perhaps stimulants. The use of liquids is to be limited. Everything which induces cardiac excitement must be avoided, and the patient encouraged and consoled with hope of slow progress, or the possible arrest of the disease. Sedatives may be employed to regulate the heart's action, such as digitalis, opium, prussic acid, aconite, and hyoscyamus. Acetate of lead, and tannin or gallic acid, have been recommended as tending to promote coagulability and coagulation of the blood fibrin. In the mean time, we should not neglect the measures proper to palliate the irremovable evils associated with the presence of the tumor, and relieve, as much as lies in our power, the pain suffered by the miserable patient—the dyspnœa, cough, dysphagia and cerebral obstruction, and congestion.

We have thus endeavored to present our readers with a fair analysis of this remarkable work. Preferring to employ the very words of the distinguished author, wherever it was possible, we have essayed to condense into the briefest space a general view of his observations and suggestions, and to direct the attention of our brethren to the abounding stores of valuable matter here collected and arranged for their use and instruction. No medical library will hereafter be considered complete without this volume; and we trust it will promptly find its way into the hands of every American student and physician.

ART. II.—*Notes on the Surgery of the War in the Crimea; with Remarks on the Treatment of Gunshot Wounds.* By GEORGE H. B. MACLEOD, M.D., F.R.C.S., Formerly Surgeon to the Civil Hospital at Smyrna, and to the General Hospital in Camp before Sebastopol; Lecturer on Military Surgery in Anderson's University, Glasgow, etc. 12mo., pp. 439. London: John Churchill, 1858.

MILITARY surgery occupies, at the present day, a deservedly high rank in the estimation both of the profession and of the public. The war in the Crimea, the mutiny in India, and the recent convulsions in Italy, all attended with so much waste of blood and life, have invested it with a new interest. Its praises have been sung by Homer, and, in all ages of the world, governments have extended to it a fostering hand. As a distinct branch, however, of the healing art, it dates back no further than the early part of the sixteenth century, when it was inaugurated by Ambrose Paré, by the publication of his treatise on Gunshot Wounds, the fruits of his observations in the French army in Italy. This man, who was surgeon to four successive kings, was an eye-witness of the numerous French campaigns, from 1536 down to the battle of Moncontour, in 1569, a period of thirty-three years. His popularity, both as a civil and military surgeon, was, up to that time, without a parallel. The soldiers absolutely worshiped him; and the success of more than one siege was due almost exclusively to the wonderful influence of his presence. At the siege of Metz, the beleaguered garrison, exhausted by fatigue, disease, and famine, would have fallen an easy prey to the Spanish army, under Charles V., if Paré, suddenly appearing in their midst, had not reanimated their drooping spirits, and made them resolve to hold out at all hazards. Everywhere, as the news of his arrival was announced, the cry was, "Paré, our friend, is among us; we cannot die even if we are wounded." The treatise on Gunshot Wounds was published toward the middle of the sixteenth century, and, after having passed through various editions, was ultimately incorporated in Paré's surgical writings, published nearly a quarter of a century later.

In England, the earliest work on military surgery was that of Thomas Gale, entitled a "Treatise on Gunshot Wounds," designed chiefly to confute the errors of some of his contemporaries, respecting the supposed poisonous nature of these lesions. Gale was born in 1507, and after having served in the army of King Henry VIII., at Montrieul, and also in that of King Philip, at St. Quintin, finally settled at London, where he acquired great distinction in his profession. In 1639 appeared the work of J. Woodall, the Surgeon's Mate; or, Military and Domestic Surgery. He was surgeon under Queen Elizabeth, by whom he was sent to France, along with the troops that were dispatched to the assistance of Henry IV. and Lord Willoughby. In 1676, Richard Wiseman, serjeant-surgeon to King Charles II., published his famous "Chirurgical Treatises," one of which was expressly devoted to the consideration of gunshot wounds. Two years after this a treatise on gunshot wounds was published at London, by John Brown, also surgeon to Charles. He was a man of eminence, and served with much credit in the Dutch war of 1665. The next English work on military surgery appeared in 1744, from the pen of John Ranby, serjeant-surgeon to George II., under the title of "The Method of Treating Gunshot Wounds." After Ranby came the imperishable work of John Hunter, familiar to every reader of English surgical literature. The part relating to gunshot wounds was founded upon his observations made while serving as staff-serjeant at Belleisle and in Portugal, and is one of the most precious legacies of the last century, near the close of which it appeared.

The present century has been quite prolific in works on military surgery, as is shown by the valuable publications of Larrey, Hennen, Hecker, Augustin, Guthrie, Thomson, Hutchinson, Ballingall, Baudens, and others, which have contributed so much to the elevation of this department of the healing art. Some of these works have been reissued in this country, and have acquired a wide celebrity.

We must not forget, in this rapid enumeration of works on military surgery, the "Manuel de Chirurgien d'Armée" of Baron Percy, published at the commencement of the revolutionary war in France. It is a model of what such a treatise ought to be.

The only work on this department of science yet furnished in this country, is that of the late Dr. James Mann, published at Dedham, Massachusetts, in 1816. It is entitled "Medical Sketches of the Campaigns of 1812, '13, and '14," and forms a closely printed volume of upwards of three hundred octavo pages. Of this work it is our intention, ere long, to give a more particular notice.

Although the work of Mr. Macleod has been before the profession for some time, we do not deem it too late to introduce it to the notice of our readers; persuaded that a good book, like good wine, is never any the worse for the keeping. Moreover, the work needs no apology, either on account of the subjects of which it treats, or the manner in which these subjects are severally handled. It is a book to all intents and purposes; a great book within a small compass.

Passing over the first four chapters of the "Notes," which treat, respectively, of the history and physical characters of the Crimea, the construction and economy of camps, the campaign in Bulgaria, and its effects on the health of the troops, the distinction between military and civil surgery, and various other matters, as of no special interest to the American practitioner, we shall busy ourselves for a short time with the peculiarities of gunshot wounds and their general treatment, the topics discussed in chapter fifth.

The *sensation* and shock experienced in gunshot injuries are variable. The sensation accompanying a wound in a fleshy part is usually described by the soldier as resembling the effect of a smart blow from a supple cane. Occasionally, however, it is more like the impression produced by the passage of a red-hot wire. The pain is always greater when a bone is broken or splintered than when there is simply a wound of the soft structures, and more severe still when a large joint or visceral cavity is laid open.

The *shock* is not always, by any means, in proportion to the severity of the injury, depending, doubtless, much on the idiosyncrasy of the patient, the presence or absence of fear, and other causes, which it is not always easy to appreciate. Sometimes the slightest injury occasions the most profound depression both of mind and body, the patient looking ghastly pale, and quivering in every muscle, despite the most powerful efforts to control himself, and that, too, when he was not afraid to walk up to the cannon's mouth. At other times a man will have a limb carried off, or be injured in some vital organ, and yet hardly experience any shock at all; nay, perhaps, be hardly conscious that he has been seriously hurt. The author refers to the case of a soldier who had both legs shot away, and who declared that he knew nothing whatever of the accident until he attempted to rise.

> "The destruction inflicted by a ball depends on the distance at which it is fired, the direction of its flight, its shape and velocity, as well as on the nature of the part struck. If fragments of metal are fired, as sometimes happened during the sieges of the Peninsula, as well as in the civil emeutes of Paris, and of which we had some experience in the Crimea also, a very lacerated, irregular, and dangerous wound may be caused. A ball passing at great speed over the surface of a limb may occasion a wound similar to that made by a knife. But this action of a ball is rare.
>
> "The great velocity, peculiar shape, and motion of the conical ball give to its wounds a character considerably different from those which is present in wounds caused by a round musket-ball. If fired at short range, and if it strike a fleshy part, the conical ball produces, I think, less laceration of the soft parts than the old ball; but if the range be great, and the part stuck bony, with little covering of flesh, as in the case of the hand or foot, then the tearing, especially at the place of exit, is greatly more marked."

Mr. Macleod has not found it so easy, as he had been led to suppose from the accounts of authors, to distinguish between the *opening* of entrance and that of exit. His observations go to show that, while in many cases the former is more regular and less discolored than the latter, it rarely happens that the lips of one wound are inverted and those of the other everted. Much, in this respect, would seem to depend upon the speed of the ball, the distance at which it is fired, and the amount of resistance experienced in its transit through the body. If the velocity be great, and no bone be struck, the difference between the two apertures will be very trifling, both as it respects size and discoloration; under opposite circumstances, the wound of exit will always be considerably larger than the wound of entrance, especially when the ball is conical. When, on the contrary, the ball is fired close to the surface, and does not meet with any hard or resisting obstacle, the difference of size will be very small, and may even be in favor of the opening of entrance.

It is often a matter of great importance to determine, when two openings exist in a limb, whether they have been made by one ball, which has passed out, or by two balls, which are retained. The question is of grave importance both in a practical and in a medico-legal point of view, but its solution is, unfortunately, not always possible. Sometimes the openings of entrance and exit are materially modified by the introduction but non-escape of a foreign body, as a piece of breastplate, belt, or buckle, along with the ball, which alone passes out, or by the flattening of a ball against a bone, or its division by a bone into several fragments, each of which may afterwards produce a separate orifice. Generally speaking, the missile, at the place of entrance, carries away a piece of skin, and rends the skin where it escapes, the former being often found in the wound.

The *contusion* which the ball produces in traversing muscles, always causes the wound to suppurate and granulate ; there are, of course, exceptions to this rule, as, indeed, we know from our own limited experience, but they are "few and far between." Muscles, badly injured by a ball, are very apt to become contracted during cure, unless special pains be taken to counteract this effect. Large shot and other foreign bodies sometimes lodge among the muscles, where they are occasionally retained for a long time without their presence being at all suspected. A tendon will often deflect a round but rarely a conical ball.

But the most disastrous effects of balls are upon *bones*, which are often, if not generally, fractured and splintered in the most frightful manner, each fragment becoming, perhaps, the source of additional injury. This is more especially true of the conical missile, which, unlike the round, is rarely turned out of its course, but passes on in a straight line, boring through soft part and bone as if they were so many planks. The consequence is that most of such cases either terminate fatally on the spot from hemorrhage or shock, or that they demand amputation. Indeed, the horrible ravages committed by the conical ball, as compared with the insignificant injury of the round, form one of the characteristic features of modern warfare. The conical ball is never split upon encountering a sharp, angular bone, as so often happened with the round ball prior to the general use of the former.

The *eccentric course* often pursued by balls in their passage round and through the body has been a matter of observation with all military surgeons. The subject, however, although of practical interest, need not detain us here

Mr. Macleod, with Begin and other eminent military surgeons, strenuously insists upon the importance of promptly extracting all balls and other foreign substances, if it be possible to get at them without inflicting too much injury, very justly alleging that their presence can only tend to keep up inflammation and promote discharge, if it do not produce other and more serious mischief. "In leaving," says he, "the ball unextracted, we never know what evils may follow. The keeping open of the wound exposes the patient, in the first place, to all the dangers of a life in hospital, and the very elimination of the foreign body by suppuration, if it takes place at all, necessitates a vast amount of annoyances."

"It is well to remember, also, in searching for balls, that they may have dropped out by the same aperture by which they entered, before we come to examine the case. Stromeyer has put us upon our guard against very curious errors, which he says he has seen made in cutting on the head of the fibula, and on a metatarsal bone for balls.

"Sir Charles Bell has shown how the nerves may indicate to us the position of the ball. In one case he found it by pressing on the radial nerve, and so discovering that the ball lay behind it. 'So when a ball has taken its course through the pelvis or across the shoulder, the defect of feeling in the extremity, being studied anatomically, will inform you of its course—that it has cut, or is pressing on a certain trunk of nerve.'"

The *fever* which supervenes upon gunshot injuries often puts on the character of an endemic or epidemic; but in war its tendency generally is to assume a low typhoid type. Hence nutritious food and drink, if not also tonics and stimulants, are often necessary at the very commencement of the treatment. When the system is exhausted by profuse discharge, cod-liver oil, with change of air, is eminently beneficial. Strict attention should be paid to the position of the wounded parts; cold is usually most grateful in the early stages of the treatment, but warm applications are always preferable when there is much inflammation, with a tendency to suppuration, or during the existence of abscesses. Poultices were rarely used in the Crimea, and in all cases the greatest attention was paid to the lightness of the dressings.

"The state of the weather has got much to do with the rapid cure of gunshot, as of all other wounds. From a perusal of the medical records of regiments serving in the colonies, it would, however, appear that hot weather, as in India, is, on the whole, more favorable than a cold climate."

Chloroform and hemorrhage constitute the topics of chapter sixth. A few words under each of these heads must suffice for our purpose. Speaking of some of the objections urged by some of his confrères against the use of *chloroform*, the author holds the following language:—

> "For my own part, I never had reason, for one moment, to doubt the unfailing good and universal applicability of chloroform in gunshot injuries, *if properly administered.* I most conscientiously believe that its use in our army directly saved very many lives; that many operations necessary for this end were performed by its assistance, which could not otherwise have been attempted; that these operations were more successfully, because more carefully executed; that life was often saved even by the avoidance of pain; the *morale* of the wounded better sustained, and the courage and comfort of the surgeon increased."

The British employed chloroform almost universally; the French also used it very extensively; and Baudens declares that they did not meet with one fatal accident from it, although it was given, during the Eastern campaign, thirty thousand times or more. Surely there could be no stronger or more convincing proof of the safety of this remedy, which has, of late, been so much decried in certain quarters by men not always either too honest or too well informed.

Hemorrhage has always been the great dread of the military surgeon, and it may well be so when we recollect how often it is a source of death. When a considerable-sized artery is divided, it generally proves fatal on the spot, unless there has been great laceration and contusion of its tissues, when there may be almost an entire absence of bleeding. The author met with two cases, and he heard of some others, in which the legs were carried away by round shot, and no hemorrhage took place.

> "The period at which consecutive bleeding is most apt to take place has been variously estimated. Guthrie sets it down as occurring from the eighth to the twentieth day, Dupuytren from the tenth to the twentieth, Henman from the fifth to the eleventh, and Roux from the sixth to the twentieth. In the cases I have myself observed, it has taken place between the fifth and twenty-fifth days, and, by a curious coincidence, it has appeared in the majority on the fifteenth after the receipt of the wound. In one case, a wound without fracture of the thigh, it was said to have taken place as late as the seventh week, and that when no gangrene or apparent ulceration was present."

Great danger frequently results from the mere grazing of an artery, the injured part often dropping off in the form of a slough, followed by fatal hemorrhage. A case is mentioned by the author where a patient bled to death at the end of the ninth day, during a fit of coughing, in consequence of the separation of a slough of the carotid, of the size of a pea, from injury sustained by the grazing of the tissues of the vessel, the sphacelus extending through its entire thickness.

Hemorrhage occurring soon after an accident was universally treated by enlarging the wound and tying both ends of the vessel. It was only when there was much swelling and matting of the parts that the main artery of a limb leading to the injured structures was ligated.

> "There were many cases of hemorrhage from the hand succeeding gunshot wounds, which came under my notice during the war. Many of the injuries resulted from the accidental explosion of the patient's own gun, and, I suspect, in not a few cases from intention. Hemorrhage, in such instances, was at times very troublesome, especially when the bones of the hand were much fractured, as it was then difficult, if not impossible, to secure the vessel in the wound. The secondary bleeding usually appeared early in these cases, and, so far as my observation went, ligature of the brachial seems better practice, when local means fail, than putting a thread on the vessel of the forearm, as I saw done several times in the East. In recent cases we can often ligature the bleeding vessel, but in the sloughing stage, with a deep wound, and the bones much injured, it is impossible to secure it. To ligature the radial and ulnar separately, or conjointly, exposes the patient to operative dangers which bring no adequate return, as the probability of success is very small."

Tetanus was not a frequent consequence of wounds in the Crimea. Mr. Macleod could not learn the exact number of cases, but he was personally cognizant of only six that occurred in camp, and of seven which took place at Scutari. Mr. Alcock, in the Peninsular wars, ascertained that the usual proportion was as one to seventy-nine. In the Schleswig-Holstein campaigns, Stromeyer met with six cases in 2000 wounds. In the Hôtel-Dieu, at Paris, in July, 1830, there was but one instance of the disease among the 390 persons confined there on account of gunshot wounds. Larrey found tetanus sufficiently common in Egypt, but fails to give any definite ratio. Of 810 wounded men who came under the observation of Sir Gilbert Blane, in the West Indies, in 1782, thirty were seized with tetanus.

Nothing is more variable than the exciting cause of this disease; in some instances it follows the most insignificant scratch, while in others the most desperate injury is insufficient to provoke it. In the cases observed by our author, four supervened upon compound fractures of the lower extremity, four upon wounds of the thigh, leg, and face, the latter involving the destruction of the eye; one upon amputation at the shoulder, and one upon frost-bite of the toes, the primary lesion of the remainder not being known. In India tetanus was often provoked by unextracted balls, especially when lodged underneath strong fasciæ; and both in that country and on the continent of Europe the operation which seemed to give rise to it more frequently than any other was amputation at the shoulder-joint.

The effects of sudden vicissitudes of temperature in inducing the disease have long been familiar to surgeons. They are most striking in tropical regions, and when the change is from hot to cold, and from dry to wet. Larrey had repeated opportunities of observing the development of the disease under such circumstances, both in Egypt and Germany. After the battle of Bautzen, the exposure of the wounded to the cold night air produced over a hundred cases of tetanus, and a large number suffered from a similar cause after the battle of Dresden. Like effects were witnessed at Ferozepore and Chillianwallah. Baudens, in his treatise on gunshot wounds, states that the influence of cold and moisture in developing the disease, during the French campaigns in Africa, was most striking. Of forty slightly wounded men, placed in a gallery on the ground floor, during the prevalence of a northeasterly wind, fifteen were speedily attacked with tetanus. Similar effects have several times been noticed in this country: Thus, after the battle of Ticonderoga, in 1758, nine of the wounded who were exposed the whole night after the action, in open boats upon Lake George, died of locked-jaw; and during our war with Great Britain, most of those who suffered on board the Amazon, in the engagement before Charleston, were attacked with this disease a fortnight after, in consequence of a very sudden change of weather, the wind blowing cold and wet.

The extremes of heat and cold both favor the production of tetanus. In the East and West Indies, the slightest prick of the finger or toe is often sufficient to induce the disease, and the inhabitants of the Arctic region not unfrequently suffer in a similar manner. Dr. Kane, in his memorable expedition, lost two of his men from this affection, and he adds that all his dogs perished from a like cause.

The *mortality* from traumatic tetanus is notorious. Fortunate is he that recovers. "The cases occurring in our army," says the author, "have been, so far as I know, with one exception, universally fatal." Of seventeen cases reported by Alcock, only two were saved. Of thirty cases observed by Larrey, in Egypt, all died within a week of the appearance of the symptoms. The records of the army in India furnish the details of nineteen cases, of whom only one recovered. Baudens states that, in Africa, three out of fifteen escaped. Of the cases observed by Blane, in the West Indies, thirteen recovered and seventeen died. These remarkable differences in the mortality of the cases in the practice of this distinguished naval surgeon, is to be found, we suppose, in the greater mildness of the disease rather than in any particular skill in its management.

On reading, says Mr. Macleod, the many accounts that have been given of this disease, he is led to infer that the most reliable remedies are opium and chloroform. Baron Larrey placed most confidence in opium and camphor, with division of the principal nerve. During the

German campaigns, he is said to have treated several cases successfully after this method. Alcock cured two cases of seventeen reported by him; one apparently by opium alone, and the other by opium and large doses of carbonate of iron. Of the obstinate and hopeless nature of this disease, in its acute form, a correct idea may be obtained when it is stated that there is hardly an article of the materia medica that has not been faithfully tried, either alone or combinedly, without success, except in a few cases, which might possibly have gotten well without medicine of any kind Amputation has occasionally been followed by recovery, though generally it is worse than useless after the full establishment of tetanic spasms.

Hospital gangrene does not appear to have been either common or severe in the English army in the East, while the French suffered most dreadfully from it. During the first winter, it prevailed a good deal among the English soldiers, in a mild form, at Scutari, frequently attacking the openings both of entrance and exit of the ball in gunshot wounds. It did not appear to pass from bed to bed, but occurred rather as a sporadic affection, its favorite seat being the inferior extremities. It generally showed itself as an *ulcerous* disease, and its ravages were nearly always limited to the skin and subcutaneous cellular substance. Mr. Macleod never saw it attended by any marked gastric disturbance. It was noticed that those who had suffered from diarrhœa and scurvy were most obnoxious to its inroads. The most reliable local remedy was nitric acid, applied not only to the edges of the sore, but also to the healthy tissues for a short distance beyond. This had generally the effect of causing an effusion of lymph, which thus formed a barrier to the further extension of the morbid action. The local treatment was assisted by the exhibition of the tincture of the chloride of iron, in half-drachm doses, three times daily. The diet was always of the most generous nature, even when there was little constitutional depression.

The reason why the French suffered so much more frequently and violently from hospital gangrene than the English, is supposed to have been due to the fact that they always removed their wounded and operated men from the camp to Constantinople, that they were more or less injured in the transportation, and, lastly, that they were improperly crowded together in their ships and hospitals. The disease raged with extraordinary virulence and fatality in the hospitals on the Bosphorus. It also prevailed about the same time in the hospitals in the South of France; and it is asserted by Mons. Lallour, surgeon to the "Euphrate," that one vessel alone, in her voyage to the Bosphorus, was obliged, from this cause, to throw sixty bodies overboard in the short period of thirty-six hours. The malady was the true contagious gangrene, attacking not only open wounds, but cicatrices, and almost every stump.

The chief topical remedy of the French surgeons was the application of the actual cautery, as recommended by Pouteau and Delpech, the former of whom, as is well known, composed a most able and faithful account of this disease as it prevailed in the latter part of the last century in the Hôtel-Dieu, at Lyons, he himself having suffered from a violent attack of it. Our author states that it apparently arrested the morbid action. The application of the hot iron was assisted by the perchlorate of iron, charcoal, the tincture of iron, lemon-juice, and other adjuvants.

In the Crimea, during the heat of summer, in 1855, after the taking of the Quarries and the assault upon the Redan, the English surgeons lost a number of cases of amputation of the thigh, from moist gangrene, of a most rapid and fatal character. Most of them perished before the supervention of sphacelus, apparently overwhelmed by the violent poison which pervaded and prostrated the entire system.

> "This form of the disease," says the author, "occurred in four cases under my own charge, in men who had had a limb utterly destroyed by round shot or grape. In all the knee-joints were crushed, the collapse was deep and prolonged, and the operation performed primarily in the middle third of the thigh. Three of the four were of very intemperate habits. All these cases took place about the same time, at midsummer, when many other similar cases appeared in camp. The wards, though full, were not overcrowded, and could, from their construction, be freely ventilated. The weather was sultry, and cholera was in the camp. The atmosphere was surcharged with electricity, and the dreaded sirocco prevailed. Wounds generally assumed an unhealthy aspect for days, when this pestilential wind blew. The cases of all those who died in my wards seemed to be doing perfectly well up to sixteen hours, at the furthest, before death. Three of them were seized on the eighth day after amputation, just as suppuration was being established. The fourth died on the fifth day. The seizure and consequent symptoms were identical in them all. In recording one case I relate all. During the night previous to death, the patient was restless, but did not complain of any particular uneasiness. At the morning visit, the expression seemed unaccountably anxious, and the pulse was slightly raised. The skin was moist, and the tongue clean. By this time the stump felt, as the patient expressed it, heavy like lead, and a burning, stinging pain had begun to shoot through it. On removing the dressings, the stump was found slightly swollen and hard, and the discharge had become thin, gleety, colored with blood, and having masses of matter like gruel occasionally mixed with it. A few hours afterwards, the limb would be greatly swollen, the skin tense and white, and marked along the surface by prominent blue veins. The cut edges of the stump looked like pork. Acute pain was felt. The constitution, by this time, had begun to sympathize. A cold sweat covered the body, the stomach was irrita-

ble, and the pulse weak and frequent. The respiration became short and hurried, giving evidence of the great oppression of which the patient so much complained. The heart's action gradually and surely got weaker, till, from fourteen to sixteen hours from the first bad symptom, death relieved his sufferings. All local and constitutional remedies which could be thought of were equally powerless,—nothing could relieve the system from the weight which seemed to crush it, or enable it to support the severe burden. Strong stimulants were the only remedies which appeared to retard the issue for a moment. Post-mortem examination, instituted shortly after death, showed the tissues of the limbs, and in many cases those of the internal organs also, to be filled with gas, and loaded with serous fluid. The vessels leading from the stump were healthy, and in only one case had there been any actual mortification previous to death. The intestines, in two of the four cases, were much diseased."

Erysipelas was not common in the Crimea, and generally readily yielded to ordinary treatment.

Frost-bite was very prevalent during the first winter which the English passed in the Crimea, and not a few perished from its effects. It was most common among those whose health had suffered from previous exhaustion rather than from the low degree of cold. The habit which the soldiers had of sleeping in their wet boots, which was at one time almost universal, from the fear that if they took them off they would not be able to draw them on again, contributed greatly to this result, the wet and cold combined diminishing the circulation and the vitality of the feet. The French suffered more from frost-bite than the English. In their hospitals, a limb, says Mr. Macleod, might occasionally be seen sphacelated half way to the knee. When the lesion was extensive, uncontrollable diarrhœa soon set in, and invariably destroyed the patient. According to the avowal of Mons. Scrive, not less than 2500 cases of frost-bite were admitted into the French ambulances, on the 21st of January, 1855, when the thermometer was at five degrees, and of these 800 died. Although the fact is not stated, it is probable that much of this extraordinary mortality was owing to the supervention of erysipelas and hospital gangrene. We infer this much from the circumstance that the surgeons were obliged to abstain from all operative interference.

The French found a solution of sulphate of iron the best topical remedy. Our author, on the contrary, derived most advantage from soothing applications. Any roughness or rude manipulation in dressing the injured parts was promptly resented by an increase of the local action, which not unfrequently terminated in gangrene, to which there was always a remarkable predisposition on any attempt to separate a toe or finger, however black and disorganized, and if attached only by a mere shred, was sure to cause great pain and constitutional irritation, often proceeding to an alarming extent.

Chapter seventh is devoted to an account of injuries of the *head*, and is one of the most interesting and instructive portions of the work. Lesions of this region of the body are extremely common among soldiers, and are, as Mr. Guthrie long ago remarked, "difficult of distinction, doubtful in character, treacherous in their course, and, for the most part, fatal in their results." This opinion of the celebrated English writer, long at the head of British military surgery, is amply sustained by the experience of past ages and by the recent revelations in India and the Crimea. Many who suffer in this way die either within a short period after the infliction of their injuries, if they do not perish on the spot, while those who escape their immediate effects are almost certain to fall a prey to secondary lesions; as inflammation of the brain and its meninges, disease of the biliary system, and metastatic abscesses, concerning which so much was written by some of the older surgeons. All men of experience are familiar with the danger of these injuries, and hence the importance of a wise and prudent prognosis.

Fracture of the skull by *contre-coup*, so common in civil practice, is seldom met with in military; for the reason, doubtless, that the injury is hardly ever inflicted upon the top or base of the cranium, as it is when a man falls upon his buttocks or is struck upon the vertex. The most frequent fracture is the punctured, but it is not the only one to which soldiers are subject, as large portions of the skull are often cut away by the sword or driven in by shells, grapes, and other missiles.

"The nature of the injury inflicted by a ball striking the skull will depend chiefly on the angle of incidence, and the velocity. The character of the ball, too, has more to do with the matter than is generally supposed." Thus, if the projectile strike the skull horizontally and forcibly, it will be likely to pass through its substance, and lodge in the brain, or make even two apertures; whereas if it strike obliquely and its force is partially spent, it will probably glance, merely grazing the bone and wounding the soft parts; or, it may be, make the circuit of the cranium. Now and then a ball has been known to be imbedded in the spongy substance of the skull, or to fracture the outer table without injuring the inner, and conversely; although the latter occurrence is one of great rarity. Mr. Macleod refers to a preparation, in the museum at Fort Pitt, which shows that the inner table may be considerably depressed without any corresponding lesion of the outer. The external wall of the frontal sinus has occasionally been knocked in without any injury to the internal. A conical ball does its work much more effectually than the old round ball; it is more apt to penetrate the bone, and generally causes a greater amount of comminution, scattering the fragments in every direction, and often producing instant death. Owing to the frightful havoc made by the conical ball, the punctured fracture is, the author thinks, less frequent now in military practice than formerly; nevertheless, he is disposed to speak with some degree of reserve upon this point, waiting for further opportunities for observation.

It is of great interest, in a juridical point of view, to know that a ball penetrating the skull from without generally, if not invariably, splinters the inner table much more than the outer. This is owing partly to the support that the outer table receives from the parts lying behind it, and partly to the diminished force of the ball in its outward passage through both plates. If the projectile perforate the skull at two points, the inner table at the opening of exit will retain its smoothness, while the outer will be torn up to an extent much larger than the ball.

Mr. Macleod refers to a case, which occurred at the Alma, where the skull was completely destroyed by a glancing shot, without any material implication of the scalp. A round shot ("en ricochet") struck the scale from an officer's shoulder, and merely grazed his head as it ascended. The result was instant death. The skull was so completely smashed that its fragments rattled under the scalp as if loose in a bag. The condition of the brain was, unfortunately, not ascertained.

One would naturally suppose that gunshot injuries of the skull would necessarily be attended, in almost every instance, with concussion of the brain; but the fact seems to be otherwise. It is only when the lesion is very great that evidence of concussion is apt to be present; under opposite circumstances it is either absent, or very slight and transient.

Sword-cuts sometimes slice away large parts of the skull, and yet such cases occasionally eventuate in the most brilliant recovery, the portion, if not wholly detached, and immediately replaced, firmly readhering. The author relates an instance, that of a Russian soldier, which was under his charge after the fall of Sebastopol, where the left parietal bone was cleft so as to be almost separated. No one, except his comrade, was permitted to touch him. His recovery was complete. In connection with this subject, Mr. Macleod mentions the remarkable rarity of hernia of the brain after sword, as compared with gunshot wounds:—

> "The danger occasioned by gunshot wounds of the head will depend much on the part struck. At some places the ball is more apt to glance off than at others, while the strong processes of bone, the situation of blood-vessels, and the apparently greater necessity to life of some parts of the brain than others, introduce many elements into the calculation of the result. Notwithstanding all this, however, the curious eccentricities which characterize these injuries—the slight disturbance created by some, which, to all appearance and experience, are ten times more severe than others that prove fatal—upset our preconceived opinions; and, while they puzzle us to account for the difference, they prove the

truth of Liston's aphorism, that 'no injury of the head is too slight to be despised, or too severe to be despaired of.'

"Generally speaking, it appears tolerably certain that wounds of the side of the head, especially anterior to the ear, are the most dangerous to life, and that a descending scale will give the following order: the fore part, the vertex, and the upper part of the occipital region, the last being decidedly the least dangerous. Remarkable exceptions to this graduating scale of danger do, however, occur.

"There are, at the same time, other circumstances besides the seat and nature of the injury which influence the result. The age of the patient is, perhaps, the most important of these. With children and young persons, the same gravity by no means attaches to the prognosis of head injuries, as to similar accidents occurring to the old. Mr. Guthrie has well observed, that in the accounts of wonderful escapes and successful operations on the head, the subjects have been, in general, below puberty. The temperament of the patient, his excitability, his social condition, as giving rise to more or less anxiety regarding the result of his case; the means there are of carrying out his treatment as to quiet, isolation, etc.; the place where he is treated, whether in the hospital of a populous city, where the results of such cases are usually so fatal, or in the country, where so much more can be accomplished,—all these are important items in forming an opinion regarding injuries of the cranium."

Speaking of operations on the head, there are, remarks Mr. Macleod, three classes of cases to which the trephine is still occasionally applied: "First, fracture with depression, before symptoms have appeared; second, fracture with depression, attended immediately with signs said to indicate compression; and third, fracture, with or without depression, followed at a later period by symptoms evidencing compression." In regard to the first of these classes of injuries, the experience of military surgery seems to be decidedly averse to operative interference. "There are, I believe," says the author, "very few surgeons of experience in the army now-a-days who approve of 'preventive trephining.'" A very large number of cases fell under his observation in the East, in which fractures of the skull, attended with extensive depression, rapidly recovered without any operative interference, simply by the use of evacuants and perfect tranquillity of mind and body. The language of Professor Macleod upon this subject is very pointed, and deserves to be reproduced here. "Every surgeon in the army," says he, "can recount many such cases. *If* any patients were lost from not having been operated on, I never saw any of them; but I do know of some patients who died, because they were subjected to operation." The accommodating powers of the brain in injuries of the skull have been a topic of remark from time immemorial; and the experience of almost all military surgeons goes to show that recoveries from these lesions are by no means unfrequent, even under apparently the most desperate circumstances, without operative aid, without any nursing, and even without any of the ordinary comforts of life, privation seemingly promoting the cure. Dr. Dease, of Dublin, in his able work on "Injuries of the Skull," long ago remarked that patients who totally neglected all treatment, and lived as they pleased, recovered quite as well as those who received every possible attention. Indeed, the chances of getting well, under such circumstances, are often much better, as the poor sufferers thereby escape the officious interference of the surgeon.

Great difficulty, as our author very justly remarks, usually exists in regard to the treatment when there is fracture with depression, immediately followed by symptoms of compression. When the depression is slight, and the symptoms not very urgent, he is of opinion that the best plan is non-operative interference, on the ground that by proper evacuants, repose, and light diet, the brain will gradually accommodate itself to the superincumbent pressure. If, on the other hand, the bone is driven deeply into the brain, and the patient is comatose, with stertorous breathing, a slow pulse, and a dilated pupil, an attempt at elevation should be made. It should not be forgotten, in trying to arrive at a proper conclusion in respect to the treatment of such cases, that the immediate cause of the compression may be effused blood; or, if some time have elapsed, exudative inflammation of the brain, or of this organ and its envelopes.

In the third class of cases, where the fracture, with or without depression, is followed at a late period by signs of compression, the hands of the surgeon are literally tied. All attempts at relief fail; inflammation has taken place, and the pus can seldom be evacuated; or, if evacuated, is not followed by any benefit.

In gunshot wounds of the head, perforating the skull, operative interference constitutes, according to Mr. Macleod, the least important item of the treatment. The examination should be made with the finger, and even that in the most cautious manner. The wound should not be enlarged, unless the object be to elevate depressed or remove loose bone. A piece of wet linen should be applied to the part, to exclude the air, and over this iced water, the head being well raised, and perfect quietude enjoined, with light diet, and an active purgative. The patient should be frequently visited, and if signs of cerebral inflammation arise, he should be promptly and copiously bled at the arm, and by leeches to the scalp.

In regard to the extraction of balls, when lodged in the brain, the almost universal practice in the army appears to be to get rid of them at once, if it be possible to seize them. The views of Quesney, Sir Charles Bell, and Sir George Ballingall are cited in favor of this procedure. Balls lodged in the brain occasionally become encysted; but such an occurrence is rare, and cannot, therefore, serve as a rule of practice. In nearly all cases their presence promptly determines fatal inflammation.

It is well known that portions of skull sometimes die after gunshot and other injuries. The practice among many able surgeons in the Crimea seems to have been to leave such cases to the efforts of nature, hoping for spontaneous expulsion. Our author adds that such treatment must often be very dangerous, an opinion in which we fully coincide with him. Nature can certainly do very little under such circumstances; dead bone—especially when loose, and fretting the dura mater —must necessarily act as a foreign body, which we have known, more than once, to cause epilepsy and other bad effects; and hence, we never hesitate to remove them as speedily as possible, since spontaneous expulsion is hardly to be expected in any case.

In a foot-note, Mr. Macleod has collected some interesting facts, illustrative of the mortality which attends the operation of trephining. Without entering into details, it may be stated, in general terms, that it is nearly always fatal.

Among the more common secondary effects of injuries of the head, spoken of by Mr. Macleod, is an intermittent headache, supervening at a variable period. A careful regulation of the diet and bowels, with vesication of the nape of the neck, and the exhibition of morphia, were found to be the best remedies. Jaundice was present in several cases; but the nervous irritation and weakness, so often noticed in civil practice, were rarely observed in the Crimea. The author did not meet with a single instance of hepatic abscess consequent upon head injuries.

A number of interesting cases are interspersed through this chapter, one of the most instructive and valuable in the book. We close our analysis of it with the following extract:—

> "To multiply cases would be of little use. The teaching of all was to lead us to wait; to purge the patient thoroughly; to remove only such pieces of bone as could be got at with forceps, and which were quite detached and loose; to bleed, if need be, locally and even generally; to use cold applications, when there was a fear of inflammation; to enjoin perfect rest, not only to the body generally, but, if possible, to give repose to the special senses also, by isolating the patient, and thus removing the stimuli to their exercise; to enforce the lowest diet, and to continue all this treatment for a long period, even after all danger seemed past; and, finally, to treat any incidental complications on general principles."

Wounds of the *face* and *chest*, treated of in chapter eighth, need not detain us, inasmuch as the former present few points of interest, while we shall endeavor to dispose of the latter in connection with Mr. Patrick Frazer's monograph on that subject, in an early number of the Review The whole question has been ably discussed by both writers, and it will be our duty to exhibit their labors in as graphic and tangible a manner as possible.

The great source of annoyance and danger, in gunshot wounds of the face, is hemorrhage. It frequently appears early, and often stops spontaneously, though at times it is commanded with much difficulty. Paralysis, partial or complete, is not uncommon. The author alludes to the importance of preventing the swallowing of the secretions in wounds of the mouth and throat, asserting that they never fail to awaken constitutional irritation and typhoid fever. We have more than once witnessed similar effects in wounds of, and operations upon, the mouth, throat, and nose.

In fractures of the bones of the face from gunshot, an exception should be made to the general rule of removing fragments which are nearly detached, observation having demonstrated that the large supply of blood in this region will enable them to resume their connection with the other tissues, in a way that would be fatal to similarly placed portions in other parts.

The subject of gunshot wounds of the abdomen and bladder is discussed in chapter ninth.

Contusions of the walls of the *abdomen* by round shot are among the most dangerous injuries to which the body is exposed, often rupturing both the hollow and solid viscera, and rapidly causing death, without much apparent sign of so severe an accident. The most important symptoms of these contusions are vomiting and pain in the abdomen; and the great object of the treatment, in the event the patient survives their immediate effects, is the prevention of peritonitis, which often comes on in the most stealthy manner. Laceration of an internal organ is nearly always promptly fatal. Shell wounds of the walls of the abdomen are generally followed by extensive sloughing. Abscesses among the muscles of the abdomen are not uncommon after gunshot injuries.

Balls often traverse the walls of the abdomen for a considerable distance without entering its cavity, or entering without injuring any of the contained viscera. Many such examples are to be found in the writings of military surgeons. A very interesting one is briefly related by the author.

"The fatality of penetrating wounds of the belly will depend much on the point of their infliction. Balls entering the liver, kidneys, or spleen are well known to be usually mortal, although exceptional cases are not rare. Wounds of the great gut are also always recognized as much less formidable than those which implicate the small. Thomson saw only two cases of wounds of the small gut, after Waterloo, in the way of recovery; but Larrey reports several. Gunshot wounds of the stomach are also exceedingly fatal. Baudens records a remarkable case of recovery, although complicated with severe head injuries. The syncope which followed the severe hemorrhage in this case lasted for ten hours, and doubtless assisted, along with the empty state of the stomach at the moment of injury, in preventing a fatal issue."

Gunshot wounds of the *bladder* occasionally occurred during the war; the ball may penetrate the organ in any direction, and at the same time commit extensive havoc in the neighboring parts, both soft and osseous. Such lesions are generally fatal. Simple gunshot wounds, on the contrary, are sometimes recovered from, especially when they are treated by the retention of the catheter, thus allowing the urine to flow off as fast as it descends from the kidneys. Mr. Macleod does not refer, in connection with this subject, to the operation of laying open the wounded viscus through the perineum, as originally proposed by Dr. Walker, of Massachusetts. Such a procedure would be much more likely to prevent urinary infiltration than the catheter, however carefully retained, during the detachment of the sloughs, as well as before the contiguous structures have been glazed with lymph.

Balls, pieces of cloth, fragments of bone, and other foreign bodies, if retained in the bladder, generally serve as nuclei of calculi, and should, therefore, be as speedily extracted as possible, either through the perineum, or by means of the forceps or lithotriptor. Quite a number of cases, in which the operation of lithotomy was successfully performed for the purpose of effecting riddance of balls and other extraneous substances, have been reported by different writers, as Morand, Larrey, Baudens, Langenbeck, Guthrie, and Hutin. An interesting paper, detailing the particulars of thirteen cases, in ten of which balls were successfully removed, has been published by Mr. Dixon, in the thirty-third volume of the London Medico-Chirurgical Transactions. An abstract of this paper will be found in Professor Gross's Treatise on the Urinary Organs. In two cases, reported by Hutin, the ball was cut out; in one, at the end of nineteen, and in the other, after the expiration of thirty-two years.

Compound fractures of the extremities, and gunshot injuries of the hand and foot, form the subject of chapter tenth. Our limits will not permit us to do more than to quote a few brief passages from this portion of the work. The first refers to the dangerous character of compound fractures:—

"Gunshot fractures of the extremities of bone have always been considered dangerous, chiefly on account of the shock, the comminution of bone, and the fact that the wound leading to it is of such a character that it can heal only by suppuration, and cannot be so closed as to convert it into a simple fracture, which, it is well known, we can sometimes accomplish in such fractures as present themselves to us in civil practice. The cavity of the fracture is thus kept open to the air; the pus undergoes those changes which Bonnet has shown it does under such circumstances, and that severe and prolonged inflammation of the deep and irritable tissues which constitutes the chief danger in compound fractures, cannot be avoided. Now, all of these dangerous characteristics of compound fractures have been immensely increased by the conical ball. First of all, the shock it occasions is undoubtedly greater than that caused by the round ball, simply because the destruction it causes is much more severe. Secondly, the comminution of bone is enormously increased. The number of fragments which are quite detached are much more numerous, and the amount of sequestra, which are so far severed as to be ultimately thrown out before a cure can be looked for, is much greater. Thirdly, the bruising of the soft parts is more extensive, so that the suppuration is more prolonged, and the changes of purulent absorption so much the more multiplied."

The author dwells at considerable length upon the importance of early riddance of detached and partially detached fragments of bone, in cases of gunshot injury, alleging that their retention is always a source of suffering and severe suppuration, and, at times, even of death. That this is the correct practice, under such circumstances, is abundantly attested by the experience of all military surgeons. We quote the subjoined passages as expressive of Mr. Macleod's views upon this subject:—

"Finally, considering the question in all its bearings, it must appear pretty evident that the removal of fragments must tend immensely to simplify the wounds under consideration, and, therefore, that not only should all spiculæ which are entirely detached be removed as soon as possible, but that the same line of practice should be followed with regard to those which are so far detached as to retain but slight connections, and whose continued vitality must be doubtful; that this step should be accomplished by enlarging the exit wound; and that the practice is especially necessary in those cases where the femur is implicated, and a conical ball is the wounding cause.

"The tertiary fragments, or those extensively adherent, should, of course, never be interfered with. Parts of these fragments may subsequently exfoliate, but at what period this may occur it is impossible to say. They may not appear for months, or, it may be, for years. Mr. Curling has lately made the observation, that necrosed portions of bone in compound fractures are longer of getting loose when they are connected with the lower, than when they are attached to the upper part of the shaft."

Chapter eleventh treats of gunshot wounds and excision of the *joints*, and is replete with interest.

The gravity of lesions of this kind has been recognized by all practitioners, military and civil, from time immemorial. The principal circumstances influencing the prognosis are the size and complexity of the articulation, the extent of the injury, and the condition of the system. A gunshot wound of a ginglymoid joint is, in general, a more dangerous affair than a similar lesion of a ball and socket joint. The structures around the articulations often suffer severely, thus greatly adding to the risk of limb and life.

Speaking of gunshot wounds of the knee-joint, our author observes that the danger is not in the primary but in the secondary affections. "The long and wasting suppurations, the tedious and dangerous abscesses, and the purulent poisoning, are the principal sources of alarm." The matter of these abscesses forms almost invariably among the muscles of the thigh, and is extremely apt to burrow along the bone, stripping it of periosteum, and causing the most extensive havoc. During the progress of the disease, the knee-joint becomes enlarged, putting on all the appearances of white-swelling.

Military surgeons have long been agreed that when the articulating extremities of the knee-joint are fractured by a ball, the proper treatment is amputation, and the cases which occurred in the Crimea formed, it would seem, no exception to this opinion. In December, 1854, Mr. Macleod saw upwards of forty cases of this lesion in the French hospitals, and all, except one, in which the attempt was made to save the limb, proved fatal. The India Reports make mention of nine cases of a similar character, every one of which perished. Of sixty-five cases of gunshot wounds of different joints, related by Alcock, thirty-three recovered, but of these twenty-one lost the limb; and thirty-two died, eighteen without amputation. Guthrie never saw a patient recover from a gunshot wound of the knee-joint; and Esmach, who served in the Schleswig-Holstein wars, expressly declares that all lesions of this description demand immediate amputation of the thigh. The reviewer, a few years ago, met with a case in which a pistol ball penetrated the knee-joint and lodged apparently in the articular extremity of the femur, followed by an excellent recovery.

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> "Shell wounds of the knee are, as a whole, not so dangerous as bullet wounds. They frequently merely cut the soft parts open; or if they injure the bone, the larger aperture which they leave acts beneficially in permitting the free discharge of secretions. I have known many shell wounds in the neighborhood of the joint, and not a few in which the articulation was opened and even the bones injured, ultimately do well, so far as saving the limb goes; more or less anchylosis following."

Gunshot wounds of the ankle-joint generally did well, although they required long treatment. Several cases involving the shoulder-joint also made good recoveries. When a ball is impacted in the head of the humerus, Mr. Macleod advises its prompt removal, inasmuch as its retention would be sure to excite severe inflammation and caries, necessitating amputation or causing death.

The following table of excision of the joints is valuable. We copy it, with important alterations, for the sake of more easy reference:—

Bones and Joints.	Cases.	Time.	Recovery.	Death.
Head of femur..........................	5	Primary.	1	4
" "	1	Secondary.	...	1
Knee-joint................................	1	Secondary.	...	1
Os calcis, and part of astragalus...	1	......	1	..
Head of humerus.......................	8	Primary.	7	1
" "	5	Secondary.	5	..
Ditto, and part of scapula.. ..	1	Secondary.	...	1
Elbow-joint..............................	13	Primary.	10	3
" "	4	Secondary.	...	4
Ditto, partial........................	3	......	3	..
	42		27	15

It is proper to add that the cases of secondary resections of the elbow-joint perished from causes not connected with the operation. Larrey performed excision of the shoulder, in Egypt, ten times, with six recoveries. Baudens cured thirteen out of fourteen cases; Legouest four out of six; the Schleswig surgeons twelve out of nineteen. Percy, in 1795, reported nineteen cures after resection of the shoulder.

The above results are eminently encouraging, and reflect great credit upon the skill and judgment of the different surgeons under whose care they took place. Mr. Macleod states that partial resections, of which there were a good many cases, did not, on the whole, turn out nearly so well as complete ones. He says they were more tedious, more liable to fail, and less satisfactory when they succeeded, than when the whole joint was removed.

The hip was resected six times in the Crimea; first by Mr. Macleod himself, and afterwards by some of his colleagues. Of these cases, five were primary and one secondary, one of the former alone succeeding. Of twenty-three amputations at the hip-joint by the English and French surgeons, not one recovered. Besides, it was found that the resected cases lived longer, on an average, as well as in much greater comfort, than the amputated, thus throwing the preponderance decidedly in favor of the former operation.

Excision of the knee-joint was performed only once; it was rendered necessary by a gunshot wound, and terminated fatally on the twentieth day.

Resection of the bones in their continuity was not much practiced in the Crimea. The results were not very flattering. The operation, as practiced upon the femur, was invariably fatal.

The last chapter of Mr. Macleod's work treats of *amputations*. The results of the military surgery in the Crimea show that the success of these operations, when performed early, was very fair, while; when undertaken late, it was most unfortunate. This was the case in both armies. Chloroform is said to have contributed greatly to the success of primary amputations, which became more frequent during the progress of the war, experience having proved that many patients, whose limbs were attempted to be saved, were lost in consequence of the delay.

A singular fact has been noticed by military and naval surgeons in regard to the absence of "shock" immediately after the infliction of gunshot injuries. Mr. Hutchinson was one among the first to call attention to this remarkable phenomenon, which has been frequently observed by others. Mr. Macleod was struck with it in several instances in the Crimean war, even after so severe a lesion as the loss of a limb, and he lays much stress upon it, in reference to the favorable opportunity which such an event is calculated to afford for the performance of amputation.

> "It is during this interval, too, that we obtain the full good of the soldier's *moral* advantages over the civilian. 'Cut off the limb quickly,' says Wiseman, 'while the soldier is heated and in mettle'—and the observation is as old as Paré, that while excited by the combat, and yet within sound of the cannon, the soldier or sailor willingly parts with a limb which a few hours of reflection would make him desire to run the risk of preserving, and upon which he fixes all his attention, so as to magnify greatly the dangers of the subsequent operation. Moreover, the removal of the man, before operation, to any distance from the scene of his accident, lessens somewhat his chances of recovery; as, besides the danger that the irritation and pain of such transport, however carefully it may be conducted, will occasion, the constitutional depression we dread, the mere loss of blood which, although going on in very small quantities, is yet flowing in drops, when a drop may extinguish life, are serious objections to the shortest delay."

One of the difficulties in the way of immediate amputation is the want of recognition of the cases demanding the operation, and the uncertainty that none of the internal organs have sustained any fatal injury, a circumstance which would, of course, contra-indicate the propriety of surgical interference.

Mr. Macleod expresses himself as a decided advocate of the circular operation, and it is not a little singular that most of the army surgeons of this and other countries regard it as preferable to the flap. It is well known that Sir Charles Bell termed the circular method "the perfection of the operation of amputation."

Mr. Macleod has furnished some very interesting statistics of amputations, which we shall endeavor to transcribe here for the benefit of the reader. In doing this, it is proper to state that the figures refer solely to the period between the 1st of April, 1855, and the close of the war, excluding thus all the unfavorable part of the campaign, as well as most of the operations performed during the actual contest. During this period 732 primary amputations took place, with a mortality of 201. Of these, 654 were primary, with 165 deaths, or 26·22 per cent.; and 78 secondary, with 36 deaths, or in the ratio of 46·1. The mortality of the greater amputations—as those of the shoulder, arm, and forearm, and the hip, thigh, knee, and leg—was 39·8 per cent. for the primary operations, and 60 per cent. for the secondary.

The increase of mortality from amputations as we approach the trunk, has long been familiar to surgeons, and the results in the Crimea have not changed our previous knowledge. Thus the ratio of mortality of amputations of the fingers was 0·5; of the forearm and wrist, 1·8; of the arm, 22·9; of the shoulder, 27·2; of the tarsus, 14·2; of the ankle-joint, 22·2; of the leg, 30·3; of the knee-joint, 50·0; and of the thigh, in its lower third, 50·0, at its middle, 55·3, at the upper part, 86·8, and at the hip, 100·0. The limb was removed at the hip-joint in 10 cases, all of which rapidly proved fatal. The French had 13 cases, primary and secondary, with no better luck.

Mons. Legouest has published a table of most of the recorded cases of amputation at the *hip-joint*, for gunshot wounds. Of these 30 were primary, and all ended fatally; of 11 intermediate, or early secondary, 3 recovered; and of 3 remote, 1 recovered. "Thus," says our author, "if we sum up the whole, we have 4 recoveries in 44 cases, or a mortality of 90·9 per cent." Some of the primary cases died on the table; and all the rest, except two, before the tenth day. In the Schleswig-Holstein war, amputation at the hip-joint was performed seven times, with one cure. Mr. Sands Cox, recording the experience of civil and military hospitals up to 1846, gives 84 cases, most of them for injury, with 26 recoveries. Dr. Stephen Smith, of New York, has published tables of 98 cases, showing a ratio of mortality of 1 in $2\frac{2}{3}$. In 62 of these cases, the operation was performed in 30 for injury, with a mortality of 60 per cent.

Amputation in the upper third of the *thigh* was performed 39 times, with a fatal result in 34. Of these cases only one was secondary, and that perished. Amputation of the middle third of the limb was performed in 65 cases, of which 38 died. Of these cases 56 were primary, with 31 deaths, giving thus a mortality of 53·3 per cent.; 9 cases were operated upon at a later period, and of these 7 died, or 77·7 per cent.

Amputation of the lower third of the thigh was performed 60 times, 46 being primary, with a mortality of 50 per cent., and 14 secondary, with a mortality of 71·4 per cent.

Amputation at the *knee* was performed primarily in 6 cases, of which 3 were fatal, and once secondarily, with a fatal result. Chelius refers to 37 cases of amputation of the knee, collected by Jæger, of which 22 were favorable; and of 18 cases recorded by Dr. Markoe, of New York, as having occurred in the practice of American surgeons, 13 got well. These cases, added together, afford an aggregate of 61, with a mortality of 21, or 34·4 per cent.

The *leg* was amputated 101 times, with 36 deaths, or a mortality of 35·6 per cent. Of these cases 89 were primary, with 28 deaths, and 12 secondary, with 8 deaths.

Amputation at the *ankle-joint* was performed in 12 cases, death following in 2. Of these cases 3 were secondary, and all favorable. Of Pirogoff's operation, Mr. Macleod thus expresses himself:—

> "Pirogoff's modification of Syme's method was, I understand, several times tried at Scutari. I saw none of these cases, and am ignorant of the results. In England it appears to have been recently followed by good effects in six out of nine cases in which it was performed. Langenbeck is said to approve of its results in a good many cases in which he has tried it; but the history of the three cases first reported by M. Pirogoff himself, and those more recently put on record by Michäelis, of Milan, and various German surgeons, does not hold out much encouragement to repeat the operation, not only from the long period necessary to a cure, but also from the unsatisfactory nature of the resulting member. It was reported in the East that this operation had been frequently performed by Pirogoff himself in Sebastopol, but that he had found the calcaneum act as a foreign body in the stump, and was hence disposed to abandon it."

The arm was removed at the *shoulder-joint* in 39 cases, with a fatal issue in 13, or 33·3 per cent., 33 being primary, with 9 deaths, and 6 secondary, with a fatal issue in 4. If we couple these cases with 21 that occurred during the previous period of the war, we shall have an aggregate of 60 cases, with 19 deaths, or a mortality of 31·6 per cent. The advantage of primary over secondary amputation of the shoulder has long been known to military surgeons. Thus, of 19 primary cases mentioned by Mr. Guthrie as having occurred between June and September, 1813, 18 recovered, while of 19 secondary cases 15 died. The experience of the late Dr. Thomson, in Belgium, is equally decisive.

Amputation of the upper *arm* was performed 102 times, with death in 25 cases, or a mortality of 24·5; 96 of the cases being primary. Of the 6 secondary cases one-half proved fatal.

The *forearm* was amputated, primarily, 52 times, and the hand at the wrist once, with only one death; while of 7 secondary operations in the same parts 2 died.

"The mode of managing stumps in the East was that usually followed at home for the promotion of adhesion by the first intention. The edges of the flaps were usually united by suture. The observation of this method in the Crimea did not certainly appear to be satisfactory. To wait, as Liston so strongly advocates, till all oozing has ceased from the cut surfaces, is unquestionably a most useful precaution, and one of great moment to their successful and early union. The irritation which the stitching of the edges occasions, the want of sufficient room for subsequent swelling, the confinement of pus which is thereby favored, all appear reasons against sutures. Stripes of wet lint, applied like adhesive plaster, always appeared preferable. I never saw one case among our most numerous amputations in which primary adhesion took place throughout the whole surface of the flaps. They united readily enough along their edges; but the result of this was, that a large bag of pus was formed within the end of the stump, which continued as a depot for absorption into the system, by steeping the end of the sawn bone and the vessels in its matter, and it burrowed far and wide in the intermuscular spaces and along the bone, and ended not unfrequently in causing considerable necrosis of the end of the divided shaft. Unquestionably it may be said that such collections should have been recognized and prevented; but yet it seems to me that when ample proof is afforded, as it was early in the East, that primary adhesion was the rare exception, and not the rule, and when the patients were so peculiarly liable to purulent absorption as they were with us, it would have been better practice not to have attempted primary union, but to have adopted such treatment as best favored the freest discharge of the matter so soon as it was formed. The method of dressing with compresses, recommended by Mr. Luke, was most useful in several cases in which I tried it, in preventing the accumulations referred to. The contrast afforded by the heavy dressings for stumps employed by the French and our water dressing was very marked, and may have contributed something to the result which obtained in the less prevalence of purulent absorption in our hospitals than with them. Bad as it was with us, it never became the terrible epidemic it was in the French hospitals. We had no means of trying the method of treating stumps in water, recommended by Langenbeck. The ease with which the purulent secretion can be got quit of by position in amputations of the arm and leg contributes, I have no doubt, not a little to the decreased mortality attending these operations, as compared to amputations of the thigh. The Russian surgeons, I am told, when operating by the circular method, which they generally adopt, split the posterior flap, and keep this part open in order to drain off the pus. Such a step would meet with little favor in this country, but it presents many advantages when purulent absorption is so common as it was in the East. M. Sédillot, of Strasburg, I believe proposes a similar modification for general use."

The chief source of the mortality after amputation in the East, was *purulent infection*. This was especially true of the secondary operations. Many beautiful examples presented themselves, on dissection, of veins leading from the stumps retaining their round, patulous condition, while their canals were filled with pus, and their coats sometimes reddened. "*It was not uncommon to trace the pus-filled vein from the thigh to the vena cava.*" The secondary deposits were, as usual, generally found in the lungs. In the Holstein war, Beck found the lungs thus affected in seven cases out of ten in which death was caused by pyemia. The French surgeons at Constantinople found, on the contrary, the pus seldom collected in depots, as they had been accustomed to see it in Africa, but disseminated through the viscera, muscles, and bones.

The visceral congestions which so often follow the larger amputations were more than commonly fatal in the Crimea, owing, as was supposed, to the presence of pre-existing disease in the lungs, kidneys, and intestines. Phthisis and acute dysentery were not unfrequently the immediate cause of death after amputations.

We have thus brought to a close our notice of this able, interesting, and instructive work, which we have no hesitation in pronouncing one of the most valuable contributions to military surgery ever made by any author. Our review, it will be perceived, is altogether of an analytical character, for we have been desirous rather that Mr. Macleod should speak than that we should speak for him. The work is written with great clearness and ability, and must serve as an enduring monument of the author's industry, discrimination, and power of observation. He now holds the appointment of Professor of Military Surgery in Anderson's University, Glasgow, and we may therefore confidently anticipate other works from a pen that has already achieved so much. We tender to Mr. Macleod our cordial acknowledgements for the "Notes" of which we have given so elaborate an account, and by the study of which we have ourselves so much profited.

We had intended, in connection with Mr. Macleod's work, to offer some remarks on Dr. Henderson's "Hints on the Examination of Recruits of the Army," a new edition of which was published a few years ago by Dr. Richard H. Coolidge; but as we have already transcended our limits, we are reluctantly compelled to postpone our notice, as also an examination of Dr. Trippler's "Manual of the Medical Officer of the Army of the United States," to another time.

ART. III.—*A Practical Treatise on Enteric Fever; its Diagnosis and Treatment; being an Analysis of One Hundred and Thirty Consecutive Cases, derived from Private Practice, and embracing a Partial History of the Disease in Virginia.* By JAMES E. REEVES, M.D. Philadelphia: J. B. Lippincott & Co., 1859. 12mo., pp. 199.

THIS is one of a class of works of which we should like to see many more examples. It merits its qualifying epithet of "practical," without its being, what is too often regarded as the synonym, empirical. As exhibiting the results of extensive opportunities for observation of a disease which is becoming more and more prevalent, and which is at all times of doubtful, and, in a great many instances, of fatal termination, this treatise claims an attentive perusal. The circumstances under which it was prepared furnish an additional *a priori* argument in its favor, which is made the more plausible by the calm, clear, and modest style in which the subject is presented for our consideration. The author, in his preface, tells us, as a reason for his adding another work to the many previously written "on enteric fever," "that the material out of which this volume is compiled, has been collected in private practice, rural practice, and in a country where, on account of the frequency of the disease during the past fifteen years, extensive opportunities have been afforded for a thorough understanding of its symptoms, uncontrolled by the influences that operate in the production, march, and termination of the disease in city and hospital practice." Again: "This little volume, herewith submitted, is just as plain and simple a statement of an important disease as I could make. Its facts have been gathered at the bedside of the rich, and the *very* poor, in the well-situated and comfortable dwelling, and in the unfavorably-situated and poorly-constructed cabin-house, and among all ages." Regret is expressed by the author at the meagre contributions of country physicians to the store of published medical knowledge.

> "Such is the extent of the apathy which prevails among the members of the medical calling, that our literature is entirely wrought from the labors of the few—professors of schools, and those in charge of hospitals. Were it not for the laudable endeavors of these men, we should not have an American medical literature."

With some noticeable exceptions, this statement is a correct one. The remark which follows, that "in many of the States the profession is represented by one or more well-conducted journals," hardly does justice to the amount and quality of the matter supplied to the common stock by works of this description. The use to which these periodicals are put in this way is evinced, among innumerable other instances, by an account of the cases of enteric fever reported by Dr. Reeves himself in 1856, for the Buffalo Medical Journal, and which constitutes the basis of the present treatise. There are various causes which prevent large contributions being made by country practitioners, such as want of time, and of habits of literary composition, and a doubt of their possessing the ability to communicate information that might interest and instruct their professional brethren. A little method would go far to obviate the difficulty alleged on the score of want of time. Few men, after a day of fatigue duty in traveling over the country and visiting the sick, are in a mood, when night comes, even if they are then left free from new calls, to take pen in hand and to prepare a paper for a journal, which demands much thought and reflection, and the active exercise of their reasoning powers. But every man in professional life is able to keep a daily record of his observations and experience, which shall be merely the expression of facts and phenomena occurring in the sick-room. From these materials he may, watching the genial hour or the quiet half day allowed to the most busy, at intervals, whether long or short, weave a historical or descriptive essay, which can hardly fail to be useful when spread on the pages of a journal. It is not necessary that a production of this nature should be marked by elegance of style, recondite research or learning. These are not requisite to attract the attention of his readers, the great majority of whom are in quest of positive information germain to their own wants, and such as shall either supply their deficiencies or confirm principles which they entertain themselves, but respecting which they may still have their doubts. In the records of the experience of a practicing physician we do not look-for learning, and do not feel challenged to criticism unless when we see obtruded on us an ostentatious display of authorities of doubtful bearing on the subject in hand. A young physician may have met with cases in his practice of a somewhat unusual character, and he determines, in consequence, very properly, to give them publicity through the pages of a medical journal. But he is not content to send them forth alone in a plain familiar dress; he thinks it necessary to make them figure in an essay on the disease of which these cases are examples, and, instead of clothing them in a plain garb, he contrives to envelop them in patches of retrospective lore, bedizened with speculations and fancies which, he may flatter himself, will be called ingenious theory, until at last his original production, in the shape of cases, is as hard to be reached as an Egyptian mummy in its endless succession of cerements.

We must not imitate the practice of those members of another profession who "think that they shall be heard for their much speaking," and whose arguments are to be measured by the hour, and not by the standard of law and logic. Happy would it be if the sufferers under these inflictions were confined to the judge and the jury in courts at home; but the same diarrhœa of words shows itself in our State and National Legislature, to the detriment of the real business of the country. Some excuse might have been offered for the wordy speculations of a young medical writer at a time when he but imitated the course of the professor to whom, a few years previously, he had lent a willing ear in the lecture-room. With a reform in the practice of the teacher comes naturally enough an amendment in the literary conduct of the scholar; and now we may congratulate ourselves on a very marked improvement in the articles written for medical journals. They are less diffuse in argument, and abound more in facts pertinent to the theme; they are also composed in a better, because a less ambitious style.

Country physicians of mature age, and with long experience in the treatment of disease, convinced of the uselessness of theoretical discussions and averse to book-making by spinning out the materials in their possession, decline to appear as authors. They forget, however, or do not reflect, that a tiny volume may have more vitality and be more useful than an inflated quarto or double octavo. The instructive volume of Dr. Reeves is comparatively a small one, and it might, without injustice to himself or his subject, have been of a still more reduced bulk. The ever-celebrated treatise of Hippocrates on "Airs, Waters, and Places," if set up in the same type, would not occupy more than fifty pages of this volume. Heberden's Medical Commentaries, a work more praised than read, the result of the observations on diseases at the bedside of the sick, during half a century, do not take up more than a moderately-sized octavo of 350 pages. Cleghorn's classic treatise on the "Climate and Diseases of Minorca," makes a small duodecimo. In thus encouraging the practitioner to keep a record of his cases, and, after a suitable period, to arrange and digest them for publication, we do not mean to advocate needless publicity, nor, in praising brevity, would we cast even implied censure on the authors of systematic works or of those demanding historical research, who are of necessity required to enter largely and in detail into the examination of the multiplied topics which lie in their way.

The treatise of Dr. Reeves may be looked at under two aspects—first, as a description of what came under his own observation in reference to the disease on which he has written; secondly, as a monograph, containing a summary of the generally received views, blended with his own, of its pathology and treatment. In the first we find much to commend, and could wish for still more than we have received. In the second we feel less satisfaction, and are tempted to become critics. The inciting consideration in the mind of the author was, doubtless, to communicate to his professional brethren the results of his personal observations and reflections on a fever which is gradually extending itself over different parts of the State of Virginia as it is over the western and southwestern regions of the United States. Our first impressions of the manner in which he has executed the self-imposed task were conveyed in our opening remarks. It remains for us now to convey to our readers some idea of the scope and contents of Dr. Reeves's volume.

In the first chapter, under the head of "Preliminary Remarks," the author states at once his preference for the title of "enteric fever" as applicable to that disease which is more generally known under the name of typhoid fever. We cannot coincide with him in this opinion, although it is sustained by the authority of Dr. Wood, a letter from whom he quotes on the occasion. The enteric lesion, in the shape of the eruptive patches, affecting the glands of Peyer and the ilium, is not always present; and there is an enteric fever, acute dysentery, in which a very different part of the intestines is the chief seat of the lesion. The designation of typhoid is objected to by this gentleman, as implying a resemblance to typhus; whereas he regards the two diseases as wholly distinct, the one from the other. We are not called upon to discuss this subject now, after the tolerably full examination of it in the March number of this Journal for 1857, in our review of Dr. Bartlett's work on the "Fevers of the United States." It is a matter of regret that Louis had not been better acquainted with the histories of fevers given by different English writers. He would have found in Huxham, Hilary, and others, clear descriptions of his typhoid, under the head of Slow Nervous Fever, or more frequently of Typhus Mitior; and he might probably have been induced to retain the original name for that disease, of which he has the merit of detailing the anatomical lesions with a minuteness and precision unknown before. If we adopt, as for ourselves we are willing to do, the term typhoid, it is precisely because we believe in the strong family resemblance between typhus gravior, the typhus petechialis of the present day, and typhus mitior, the typhus abdominalis of continental pathologists. The suffix oid, from *eidos*, expresses reresemblance but not identity of cause and nature; as, for example, when Maelzel, in his ingenious mechanism, gave the name of androides to the minute automatic figures resembling men, which he marshaled and manœuvred at will, it was not pretended that they had vitality, volition, or any characteristic of living man. The prevailing features in both typhus and typhoid are there dependent upon disorder of the brain and nervous system generally. It was this disorder that procured for the fever the designation of typhus, and, assuredly, it is quite evident in the other, even though milder form of fever, to justify a corresponding term typhoid, if we refuse to say typhus mitior.

Dr. Reeves divides enteric fever into the simple or mild, the intermediate, and the malignant, including the fatal. He admits the difficulty, in some instances, of drawing the line between these divisions, which, after all, may serve better to designate stages of the fever, varying in their duration and intensity, than distinct forms. The duration of the mild form may not exceed nine days, or it may be protracted to twenty, thirty, forty, and even fifty days. The malignant, often the sequel of the milder fever, is, however, so in many instances from the beginning or a few days thereafter. Under the head of Symptomatology, the author describes the "prodromata," in which there is no uniformity. A table is given, showing the period of the formative stage in one hundred and thirty consecutive cases, in his practice. The fifth day, counting from the first to the eighth, gave the largest number, or 24 males and 15 females. Of the one hundred and thirty cases, sixty-four were of the simple or mild form,—the symptoms of which are described. Seldom was there rose-colored eruption absent at some period of this form of the disease. The transparent vesicular eruption, called sudamina, was, on the other hand, noticed in but a few cases. Delirium is not a constant symptom, although its occurrence in waking from sleep, or during the night, is not at all uncommon. Mention is then made of the turn which the disease takes, either to aggravation or amelioration of the symptoms. Thirty-two cases presented the exasperation of symptoms characteristic of the intermediate form. "During the night the delirium becomes more constant, though in these cases never so profound but that the presence of the physician, or some strange visitor, causes the mind to rest correctly. A marked increase of tympanitic distention and diarrhœa is now generally observed." The rose-colored eruption, "upon an average," was not found to occupy as much surface as in the preceding form. Sudamina, whenever found, always appeared at this time. Epistaxis, when it did occur, was always more profuse than in the milder form. Sudden change for the worse, after a marked amendment in every particular, is not uncommon in this form. Twenty-five cases, passing through the milder gradations, resulted in the malignant form. The author now completes the history of the intermediate form, in order to present us a continuous history of the disease from the mildest to the most severe. We shall not follow him in this examination, but content ourselves with selecting for notice the excessive tympanitic distention, the offensive, tar-like stools, the more frequent and profuse hemorrhages, diminished urinary discharge which has the color of dark lye, low and muttering delirium, carpology, "involuntary discharges of urine and fæces, and there arises from the patient's body the most sickening odor." Next are spoken of "those cases, occasionally occurring, in which a degree of malignancy is observed in the beginning or very soon thereafter. Nine cases assumed this cast immediately on the full development of the fever."

The symptoms are recapitulated in the following order: 1. Headache. 2. State of the Mind and Senses. 3. State of the Muscles. 4. State of the Pulse. 5. Cough and Bronchial Râles. 6. Diarrhœa. 7. Tympanites. 8. The Rose-colored Eruption. 9. Hemorrhage. 10. Tendency to the Formation of Eschars. "In a few instances the delirium is strictly monomaniacal." "Dullness of hearing is one of the most constant alterations in the functions of the senses observed in enteric fever." "The change of pulse most frequently observed is that of frequency combined with weakness, and this change is in nearly exact proportion to the severity of the disease. In the mild form it rarely exceeds 115, and in quite a number of instances falls short of these figures, and in a very few instances it falls below the actual standard." "Cough more or less almost invariably attends the disease. It may exist in the beginning, or not make its appearance until the latter part of the second week; most generally it sets in during the first week." *Diarrhœa.* "There is perhaps no one symptom belonging to enteric fever which, according to the degree of its manifestation, is so well proportioned to the gravity of the disease as diarrhœa. Even when it does not exist among the prodromata, the bowels show an increased susceptibility to the action of cathartic medicine, and by the exhibition of such medicine to purge off the supposed *bad cold,* the irritability of the bowels is increased, and diarrhœa brought on much earlier perhaps than it would have naturally occurred. In many instances, however, the discharges are liquid and frequent in the beginning without any assignable cause, and in such cases the disease soon assumes a grave form." "Along with the diarrhœa of either form, straining sometimes occurs, and where it exists, is particularly complained of when the patient is at stool." "Among the earliest symptoms of enteric fever is tympanites." "This symptom generally continues until the beginning of convalescence, or the termination of death." In Dr. Reeves's experience, he has seldom failed to observe the rose-colored eruptions at some stage of the disease.

The author begins the chapter on Anatomic Lesions by the remark: "If I were compelled to rely upon my own observation for a description of the changes found in the several organs and structures after death from enteric fever, I should omit this chapter." Forgetting the terms of his title-page, viz., of his treatise being an analysis of cases derived from private practice, he ceases here to be his own historian, and, desirous of making his work a monograph, he draws on another source to fill up the blank. He copies accordingly from Dr. Wood (*Treatise on the Practice of Medicine*) an account of the morbid anatomy of the disease. He could not, of course, have taken a safer guide.

Under the head of History and Causes, Dr. Reeves tells us, that "enteric fever has become a common disease in Virginia, and in some localities has almost completely supplanted the bilious-intermittent form, which was of such frequent occurrence in former years. This remark applies with especial truth to some sections of eastern and southeastern Virginia." The author introduces a number of letters from practitioners in that section of the State, to confirm this assertion. But on extending his view, he finds that the fever is common in the great valley as well as in the southwestern counties. His rapid notices of different districts and counties will only be understood by those familiar with the geography of Virginia, and even they will call a map into requisition to aid them in the search. The value of this part of the volume would be greatly enhanced by a minute topographical description of some of the localities in which the fever prevailed, as well as a specification of the situation and internal economy of the houses, and the race, (white or black,) ages, habits, and occupations, of those who were attacked by the disease. Details of this nature, always necessary, assume still greater importance when the question of contagion is brought up, as it is, in due course, by the author. To a limited extent, the details of a topographical nature now asked for, are given by Dr. Reeves in the instance of Philippi,—his place of residence, in Barbour County, and that in which the origin and progress of the fever shows, he thinks conclusively, its contagious character. The subject is of so much importance as to justify our giving the entire narrative, in the words of the author, as follows:—

> "My own opinion is not wavering upon the subject, and I do not hesitate to declare my firm belief of its contagiousness. I have reserved the history of the disease in Barbour County until now, because of the evidence of contagion which it will exhibit.
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> "Enteric fever was not recognized in Barbour prior to the year 1837. In October of that year, a gentleman by the name of Selvey, who had been on a visit to Athens County, Ohio, was brought home sick of the disease, called at that time in Ohio, '*slow fever.*' In three or four weeks after his arrival, his mother, father, and three brothers were taken down with the disease; the mother died. The last of November following, six of another family near by, took the disease, and one died. In December it appeared in a third family; five of these

had the disease, and three died. From these it sprang up in another family five had the disease, and one died. The last of January, 1838, nine of another family had the disease; four died. During the following spring and summer two other families took it; nine of these died. In the winter of 1838 and 1839, several other families took the disease, amounting in all to twenty cases; of these six died. From that time up to the winter of 1840 and 1841, there were occasional cases springing up throughout the country. But during the fall and winter of 1841, the disease appeared in another neighborhood, ten miles distant; several families were attacked; among which there occurred ten cases, and four died. In the fall of 1842, a merchant returned from the North, sick with the disease, (his neighborhood alike previously free;) several of his family took it, but none died. The following winter it appeared in another neighborhood; six had the disease, and three died. From this date up to the winter of 1843, there were but few cases occurring; but during the next spring it made its appearance in still another neighborhood; some ten cases occurred, and four died. During the year 1845 it was generally prevalent in the county; about thirty cases occurred, and but one or two deaths. From the close of the year 1845 up to the year 1851, the disease became less common; but during the spring and summer of the last-named year the extent of its visitation exceeded that of any former year; and the citizens of our village, particularly, suffered severely from the disease.

"Philippi is situated about ten miles west of the Laurel Mountain, on the Tygart's Valley River, forty miles from its junction with the Monongahela, which, for two miles above and five miles below, has a sluggish current. Across the river, immediately opposite Philippi, is a small village, Georgetown. The bank on that side is very low for a few hundred yards, spreading out into a level in extent of about ten acres, and bordered on both sides by high hills. The greater portion of this ground is inundated at every considerable rise of the river. In the spring of 1851 the construction of a bridge, connecting Philippi with Georgetown, was commenced; adding about thirty to the population of this last-named village. Among the workmen, whose business required them to stand in the water, enteric fever began; from these it occurred among the workmen in stone upon the banks, and from these to the citizens generally. Our side of the river, Philippi, was next attacked, extending from family to family. Several of the workmen at the bridge, on being taken sick, went to their families in various parts of the county, forming starting-points of the disease in their several neighborhoods. Other hands were employed to fill the places of those taken sick, but were soon likewise taken down. Fresh workmen were again and again secured; but the disease as successively continued to attack them, until at last, during the year 1852, the work was, in consequence of it, almost completely suspended.

"In September of this year, 1851, there was a menagerie exhibited at Philippi, which was largely attended by the people of the county; the following night nine persons, in attendance during the day, began to feel unwell, and had the disease.

"From 1851 to 1858, our county has never been entirely free from the disease for more than a few months at a time. During this period it has been wandering about the different neighborhoods, at one time mild, at another severe, attacking one neighborhood this year, another the next; and then, perhaps, returning to the locality it visited the year before. The fall and winter of 1855, the disease was uniformly severe. The summer was wet throughout; vegetation grew rapidly and was abundant. Heavy frosts appeared early, and the offensive exhalation from the decomposition of vegetable matter was remarkable. Hemorrhage from the bowels was of frequent occurrence at this season.

"I could bring forward other testimony of the contagiousness of enteric fever in abundance, but this I deem unnecessary, and shall content myself with the following single instance:—

"Riley M., aged twenty-four, a farmer, visited an acquaintance sick of the disease, October, 1855, distant some ten miles. There was no fever in Mr. M.'s neighborhood at the time of his visit to this friend, nor had there been for several years; but in two weeks after his return, he took the disease at his father's dwelling, and in twenty-eight days died. In ten or twelve days after his death, his sister, two brothers, mother and father, took it; the mother died. Among those who visited Mr. M., during his illness, was a cousin, a girl of nineteen, and a male friend, both of whom immediately contracted the disease; the cousin died. From these, other cases occurred in the neighborhood, no one taking the disease who had not visited the sick. Others were exposed also, but were not attacked.

"Dr. Elam D. Talbott, of Philippi, who has watched the progress of the disease in Barbour from the date of its advent, in 1837, to the present, is a firm believer in its contagiousness. This gentleman has met with the disease more often than any other of his county brethren; and though his usefulness is for the present denied, on account of the heavy hand of affliction which rests upon him, his long successful practice will be remembered by the community and acknowledged by his professional acquaintances."

Dr. Reeves, in common with all his professional brethren from whom he has made inquiries on this point, knows of no instance of a person having had a second attack of the fever. The experience of his correspondents is the same with that of Louis and others, that typhoid fever is most apt to make its attacks on persons in the prime of life; but it points to a wider range of age than was admitted by the French author. Dr. Reeves, in a table of 130 cases, which came under his own observation, shows that, among the males, he had a patient with this disease who was but eighteen months old, another thirty months, and seven from two to seven years of age. Cases of seven females furnished one at eighteen months, two from three to six years, and four from six to nine years. At the other end of the scale there were three male patients, whose ages were from fifty to sixty years, and one female at sixty to sixty-five years. Could not this person tell her age, and was the doctor left to guess it in this fashion? As relates to sex, the males furnished the majority of cases—a result which Dr. Reeves believes to be "entirely accidental."

The author, after quoting the observations of his brother practitioners in different parts of Virginia on the duration of the disease, gives the results furnished by his own experience. These show, that, in sixty-three cases of the mild form of enteric fever, the termination of the majority of them was between the thirteenth and eighteenth days. In eighteen cases of the malignant form the average duration was twenty-two days.

Touching the complications of enteric fever with other diseases, the earliest were found to be bilious-remittent fever and acute pneumonia; pleurisy in a few cases, and erysipelas in others, were met with during the progress of the fever. "The most fearful of the accidental inflammations is peritonitis, the result of perforation, and occurs sometimes when least expected." Bartlett is quoted for a description of the symptoms which accompany this accident.

The terminations and sequelæ of enteric fever are next noticed. Under the head of the first come convalescence and death. Among these latter Dr. Reeves has "seen two instances of swelled leg and thigh, like that which is incidental to parturient women." A well-written chapter on Diagnosis, Mortality, and Prognosis follows, closing with some remarks on "Nature." "Our powers at accurate diagnosis may sometimes be heavily taxed to distinguish enteric fever from puerperal peritonitis, especially when the symptoms of the latter bear the typhoidal relationship." As a general rule, the disease is believed by the author to be more fatal during the fall and winter months than at other seasons. In a preceding page, when speaking of enteric fever being long confounded with true typhus fever, he tells us that the doctrine of the identity of the two diseases is still adhered to, "notwithstanding the conclusive researches of several years, which have established beyond all cavil the dissimilarity of the two affections." So far from joining in this conclusion we would say, repeating the words of the author as applied to puerperal peritonitis, that our powers of accurate diagnosis may sometimes be heavily taxed to distinguish enteric fever from typhus fever. If the dissimilarity between the two be so evident, why have they been so repeatedly mistaken for each other? Huss, giving the result of twelve years experience of himself and his colleague, Professor Malmsten, on 3185 typhus patients, in the Seraphin Hospital in Stockholm, including under this head those who had suffered from typhus proper (*typhus petechialis*) and from typhoid fever, (*typhus abdominalis*,) uses the following language: that these fevers, "such as they appear in the climate of the North, neither can nor ought to be considered as two distinct maladies, but only as two varieties of the same morbid process." Elsewhere, using the words of philosophic doubt, he says: "It may be very easy to distinguish the two remotest links in the chain of which the typhus process may be said to be composed, and then to decide if any particular case is one of typhus or typhoid fever, but even the most penetrating discernment may be baffled in attempting to distinguish one of the intermediary forms, which lie between the two extremes, and partake a little of each, and it may be impossible to make a correct diagnosis."* Huxham, more than a century ago, expressed himself in nearly similar terms. When describing the two fevers, (the slow nervous and the putrid malignant,) he says that he is "very sensible the one may be, and very often is blended with the other." But, as we said before, we do not mean to renew the argument at this time, and what little we say on the subject is merely to show that Dr. Reeves is somewhat hasty in his sweeping assertion, that the dissimilarity of typhus fever and enteric or typhoid fever has been proved beyond cavil.

Sensible remarks are made on points of the prognosis of enteric fever, which we shall not specify, any more than details of the treatment of the disease. The latter is not exhibited as that which is pursued by the author, but rather as "a fair exposé of the subject." This we can get in many quarters. What would have been more acceptable and instructive, both in itself and for the purposes of comparison, was a specification of the measures coming within his own experience. To a certain extent this is done in his commentaries on the value set on the different remedies and classes of remedies by other writers and practitioners. In speaking of tepid sponging, of which he thinks favorably in the severer forms of the disease or when the patient is much prostrated, he makes the mistake, too common among practitioners and some medical writers, of confounding tepid and warm. To the former he assigns the limits of 87° to 97° Fahrenheit—a range which comes within a degree of the upward limit of the warm and the beginning of the hot bath, (98° F.)† The only new remedy in the treatment of enteric fever mentioned in the volume of Dr. Reeves is *veratrum viride.* Of the power of this drug to control the heart's action he is "as well convinced as of any other established truth in medicine." He speaks favorably of its diaphoretic property—a fact not generally noticed. The author regards it, in all proper cases of enteric fever, "as a safe, reliable and valuable adjuvant to other means employed for its management." He has administered it to the young and to the aged, to the delicate and robust, in the pregnant state at all periods, and has had no cause to regret its effects. So far from its being apt to produce abortion, he thinks "further experience may possibly establish that, in certain conditions, the *veratrum viride* may be beneficially employed for the purpose of defending the pregnant state." A case is detailed in corroboration of this view. Dr. Reeves is willing to declare it a most valuable auxiliary, in many instances, to other recognized means, in moderating the violence of enteric fever, and in conducting it to a favorable termination. He judiciously adds: "I do not think that we are authorized to believe that the disease can be suddenly interrupted by any method of treatment with a view to its full effect." He usually begins by giving five or six drops of the saturated tincture in a little sweetened water, and repeats the dose every three hours, (increasing the quantity by two drops at each successive dose,) until the pulse is brought down to or below the natural standard. "Ordinarily it requires the fourth dose to effect complete mastery of the pulse." After "the telling dose" has been reached, the influence of the medicine may be prolonged by the administration of from two to eight drops every three or four hours. Among the good effects procured by this medicine, we learn that "the appetite was better sustained and the thirst less urgent than when not used." Next in the scale of novelty, is the chlorate of potassa in the treatment of enteric fever. Dr. Reeves has been in the habit of employing this agent in almost every case of the disease that has fallen under his care for the last five years. He directs it in weak solutions as a constant drink, when sordes begin to form about the lips, gums, and teeth. It is, he believes, an excellent vehicle for the administration of the veratrum viride, and as such may be used according to the formula proposed by Dr. Taliaferro. ℞.—Chlorat. Potass., saturated solution; Tinct. Verat. Virid., ℥ss. M. Of this the patient is to take a tablespoonful every three hours during the day. Judicious advice is given in the use of stimulants and tonics. Opium is classed with the former: its combination with camphor, as a means of quieting nervous agitation and restlessness and of inducing sleep, is properly lauded.

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* Statistics and Treatment of Typhus and Typhoid Fever, quoted in North American Medico-Chirurgical Review, p. 184, 1857.

† See Bell on Baths, etc.

Dietetic management and the treatment of complications next engage the notice of the reader. Strict attention to diet is not less important than the use of medicines in the successful management of the sick. Great watchfulness is very properly enjoined in the convalescences from enteric fever. The most important part refers to diet, regulation of the bowels, and exercise, on each of which good advice is offered. The following caution, too often unheeded or overlooked by medical men in prescribing a diffusible stimulant in depressed states of the system, is laid down by Dr. Reeves, viz.: "As health becomes confirmed, it should be gradually withdrawn." It ought to be an affair of conscience with every physician to keep watch over his patient until the use of a diffusible, by which we mean more especially an alcoholic stimulant, is entirely dispensed with.

ART. IV.—*An Introduction to Practical Pharmacy; designed as a Text-book for the Student, and as a Guide to the Physician and Pharmaceutist. With many Formulæ and Prescriptions.* By EDWARD PARRISH, Graduate in Pharmacy, Member of the Philadelphia College of Pharmacy, and of the American Pharmaceutical Association, and Principal of the School of Practical Pharmacy, Philadelphia. Second edition. With 246 Illustrations. 8vo., pp. 720. Blanchard & Lea: Philadelphia, 1859.

THE medical and pharmaceutical professions of the United States are indebted to Mr. Parrish for the first systematic treatise on practical pharmacy ever published on this side of the Atlantic. That the work has been well executed is sufficiently attested by the demand of a second edition so soon after the appearance of the first. The present issue has been enriched by nearly two hundred pages of new matter, and by a number of original engravings, rendered necessary by the rapid progress of pharmacy within the past few years. To impart to it as much completeness as possible, the author has availed himself of many recent foreign works, not generally accessible to students; and he has spared no pains to make it a fair and satisfactory exponent of the existing state of the science. The whole treatise is eminently practical; and there is no production of the kind in the English language so well adapted to the wants of the pharmaceutist and druggist. To physicians, also, it cannot fail to be highly valuable, especially to those who are obliged to prepare and compound many of their own medicines; a practice which, in view of the numerous mistakes committed by uneducated and unscrupulous apothecaries, is at the present day unfortunately too much neglected.

The work of Mr. Parrish is well written; and we cannot doubt that the present edition will, like its predecessor, have an extensive circulation. The eminent publishers deserve great credit for the manner in which it has been issued. They have evidently spared neither pains nor money to do justice to their author's labors.

ART. V.—*The Obstetric Catechism; containing* 2347 *Questions and Answers on Obstetrics Proper.* By JOSEPH WARRINGTON, M.D. With 150 Illustrations. 12mo., pp. 445. J. B. Lippincott & Co.: Philadelphia, 1860.

WE presume this to be a new edition of this work, although the fact is not stated on the title-page, where one would naturally look for such an announcement. The first edition appeared in 1853. As a general rule, we have no special fancy for manuals of this description, but we may readily make an exception in favor of the present production, knowing it to be the offspring of a man of sound sense, of large experience, and of no little practical tact; the author having for many years been at the head of the Philadelphia Obstetric Institute, a charity affording ample opportunities for observation. The work is very appropriately dedicated by Dr. Warrington to his pupils, and is written with great modesty, but accuracy and clearness. The wood-cuts are, for the most part, miserably destitute of artistic finish.

ART. VI.—*Lectures on Surgical Pathology, delivered at the Royal College of Surgeons of England.* By JAMES PAGET, F.R.S., lately Professor of Anatomy and Surgery to the College; Assistant Surgeon and Lecturer on Physiology at St. Bartholomew's Hospital. Second American edition. 8vo., pp. 700. Lindsay & Blakiston: Philadelphia, 1860.

THE work of Mr. Paget is too well known to our readers to require any comments from our hands. It is read and studied wherever the English language is spoken, and there could surely be no better recognition of its claims than this simple circumstance. Since the days of John Hunter, of whom Englishmen and their descendants are so justly proud, no treatise on surgical pathology has appeared that is at all comparable with it, either in point of originality, the accuracy of its doctrines, or the universal favor with which it has been received by the profession. We know some men who swear by Paget, as the Mohammedan does by his Koran; it is his law and gospel; the book of his faith and practice. We were acquainted with a distinguished teacher of surgery, now deceased, who used to tell his students, in the lecture-room, to buy Paget if they were compelled to obtain the money by selling the shirts on their backs. Paget is quoted by everybody—by the hoary-headed professor, and by the medical suckling; and he is evidently destined to have a long and a glorious reign.

Much of this praise, we are satisfied, is deserved; but we are equally convinced that some of it is unmerited. Mr. Paget's work contains some very grave errors; some of his generalizations are hasty, and some of his conclusions quite illogical, if not totally unfounded. We do not deem it necessary to particularize; the present edition contains no new matter, and does not, therefore, call for any special criticism. Mr. Paget had, evidently, nothing to do with its production; it is a mere reprint of the former American edition; and the only thing new about it, that we can discover, is its title-page, with the imprint 1860. The work has now been before the profession for nearly seven years, and it will, no doubt, soon receive a thorough revision from its distinguished author. We shall hail the appearance of a new edition with unmingled gratification. Messrs. Lindsay & Blakiston deserve the thanks of the American reader for having reproduced the lectures in this country.

ART. VII.—*The Action of Medicines on the System.* By FREDERICK WILLIAM HEADLAND, M.D., B.A., F.L.S., Licentiate of the Royal College of Physicians, etc. etc. Third edition, revised and enlarged. 8vo., pp. 463. Lindsay & Blakiston: Philadelphia, 1859.

THIS is another of the excellent reprints of Messrs. Lindsay & Blakiston. The fact that the work, within a few years, has reached a third edition, is a sufficient evidence of the estimation in which it is held in Europe and this country. In apologizing for his delay in bringing out a new edition, the author states that it has been caused solely by his desire to spare no pains to render the essay as complete as possible. Some matters have been noticed which had not been before included, and several points of general interest have been discussed more fully than they had been previously. The new edition is issued in beautiful style, and reflects great credit upon the taste and enterprise of the American publishing house.

ART. VIII.—*The Physician's Hand-book of Practice, for* 1860. By WILLIAM ELMER, M.D., and LEWIS ELSBERG, M.D., pp. 190. New York, 1860.

OF all the little pocket annuals that have met our eye this is, undoubtedly, the most complete, although, from its size, perhaps not the most convenient. To the young practitioner it cannot prove otherwise than extremely valuable. The scope of the book is best indicated by the nature of its contents, the most important of which are: A calendar, for 1860; classification of diseases; eruptive, and other fevers; diseases of the skin, vessels, and internal organs; Hall's ready method; medicinal weights and measures; abbreviations of the medical properties of remedies; list of remedial agents; list of incompatibles; medicated baths; art of writing prescriptions; poisons and their antidotes; diagnostic examination of the urine; explanation of signs; names; addresses; bills and accounts; record of practice and treatment; obstetric calendar; obstetric record; wants, and general memoranda; nurses; and blanks. We wish this hand-book an extensive circulation.

ART. IX.—*The Physician's Visiting List, Diary, and Book of Engagements, for* 1860. Philadelphia: Lindsay & Blakiston.

THIS book is much smaller than its New York competitor, and less full; but at the same time more portable, and, therefore, more convenient. It has, evidently, been prepared with much care, and will be found very useful to the practitioner in the daily rounds of his duties. It comprises, among other matters: An almanac; table of signs; Hall's ready method; poisons and their antidotes; table for calculating the period of utero-gestation; blank leaves for visiting lists; memoranda; addresses, for patients and nurses; obstetric engagements; vaccination engagements; and general memoranda.

ART. X.—*The Surgery of Western Nations.* By H. HOBSON, M.D., London Mission Society. Shanghae, 1857.

A WORK on surgery, published in the Chinese language, is a curiosity. That a Christian dog should have ventured upon such an enterprise must have greatly surprised the Celestials, for whose special benefit the book has been prepared. Dr. Hobson deserves well of these people for his attempts to enlighten them upon professional matters. The "Surgery of Western Nations" is intended as a companion to his works on anatomy, physiology, chemistry, midwifery, and practice of medicine, which are all issued in the same uniform style. Our Chinese scholarship is not very profound, but we *guess* that the letter-press is well executed, while, if we are any judge of the picturesque, we have no hesitation in saying that the wood-cuts which accompany these productions are utterly destitute of artistic finish. Indeed, nothing could be more crude and imperfect. Those in the treatise on surgery, upwards of 400 in number, are copied from Liston, Ferguson, Erichsen, Miller, Druitt, and Wharton Jones, and exhibit a very odd, dislocated appearance among the Chinese hieroglyphics, whose meaning they are intended to elucidate.

We are indebted for copies of these works to our collaborator, Dr. John G. Kerr, of Canton, whose article on "Medicine in China," in a former number of the Review, attracted so much attention. Our friend is doing good service at the Missionary Hospital of that city, and we trust that his Celestial Majesty may be induced, one of these days, to make him his privy counselor and surgeon in ordinary.

ART. XI.—*Description of a Deformed, Fragmentary Human Skull.* By J. AITKEN MEIGS, M.D., Professor of the Institutes of Medicine in the Medical Department of Pennsylvania College, etc. etc. Philadelphia, 1859.

THIS little brochure is a reprint from the Proceedings of the Academy of Natural Sciences of Philadelphia, before which it was read during the past year. It is an attempt by the learned author, who is well known both here and in Europe as one of our most able and scientific investigators, to determine, by the configuration of the skull alone, the ethnical type to which it belonged. The skull was presented to him by Dr. J. Judson Barclay, of Jerusalem, who discovered it in an ancient quarry-cave in the vicinity of that city. We have not time to follow Professor Meigs in his erudite discussions; we shall, therefore, content ourselves with two short extracts, setting forth his conclusions.

> "Thus, then, from the foregoing details, we may conclude quite positively that the skull found by Mr. Barclay is neither that of a Jew, Arab, Egyptian, Fellah, Turk, Roman, Persian, Elamite, Tibarenian, nor Libyan. Reasons have also been adduced opposing the ascription to it of a Peruvian origin.
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> "It may have belonged to the Parthians, Phrygians, Mesopotamians, Cappadocians, or Cretans, in so far as these are representatives of the so-called Turanian type. The craniographic data necessary to determine this point satisfactorily are almost entirely wanting."

Original Communications.

ART. I.—*Cases from the Surgical Clinic of the Jefferson Medical College.*—Service of Professor GROSS.

Reported by EMIL FISCHER, M.D., of Philadelphia.

I. *Case of Congenital Cataract; Operation by Division.*—J. C., a healthy, well-developed male child, five months old, was brought to the college clinic in the early part of November, 1859, on account of congenital blindness. The patient had enjoyed good health up to this time, and there seemed to be no tendency to hereditary disease in the family.

On subjecting the eyes of the child to a careful examination, the pupil of each was observed to be obscured by a cataract. The opake body, in both eyes, was of a bluish-white color, without presenting the striated appearance so frequently observed in acquired cataract, and made the impression as if being composed of a paste-like substance; its size did not seem to exceed that of the lens in the normal state. The opacity involved both the crystalline lens and its capsule, constituting thus a capsulo-lenticular cataract; from its appearance as well as from the nature of the case, it was presumed to be of the soft kind. The iris was of a bluish-green color, and was apparently in a normal condition; the pupil obeyed the light but imperfectly.

As is apt to be the case in congenital cataract, the eyes were affected with perpetual oscillation—a circumstance which rendered the subsequent operation one of considerable difficulty.

Operation.—The patient being an infant at the breast, no preparatory treatment was necessary. In order to dilate the pupil, a solution of one-eighth of a grain of atropia in two drachms of water was dropped into the eyes; the dilation was, however, incomplete and irregular in consequence of adhesions between the circumference of the capsule and the iris. The child was rendered motionless by being wrapped up in a shawl firmly pinned. An assistant being seated in a chair, took it in his lap and secured it in a half-sitting posture, while another, standing behind the chair, fixed the head and the upper eyelid.

Professor Gross, sitting before the patient, and confining the lower extremities of the same between his thighs, introduced a most delicate, perfectly straight, and sharp-pointed needle two lines behind the cornea, a little below the horizontal diameter of the eye; and, directing the point of the needle in front of the lens and its capsule, lacerated and divided these structures freely, separating the capsule from the adhesions with the iris, and pushing as many fragments as possible forward into the anterior chamber. The other eye was then operated upon in a similar manner.

In order to prevent constitutional irritation, a few drops of laudanum were administered to the patient immediately after the operation, and a dose of castor-oil was ordered to be given the next morning.

The child was confined in a dark room, and had its eyes covered by a light bandage. The pupils were kept dilated until inflammatory action had subsided. Any further medical interference was considered unnecessary, and the child was put to the mother's breast as often as usual.

The operation was not followed by any untoward symptoms; the reaction subsequent to it was very slight, and the local inflammation of but little account. One week after the operation the pupil of the left eye was found to be perfectly clear; in that of the right eye, however, but little change had taken place; and in order to render the cure complete, the operation had to be repeated on the unchanged eye.

Remarks.—In regard to the *cause* of congenital cataract, the opinion of pathologists, said Professor Gross, is divided. Some, supposing the lens to be opake at a certain period of life, ascribe the affection to an arrest of development; others believe it to be a product of inflammation. It is highly probable that congenital cataract may originate from either cause; for, while in some cases it is accompanied by other congenital malformations, such as iridermia, coloboma of the iris, or micropthalmos, we find in others various products of inflammation coexisting with it, such as opacity of the cornea, and adhesions between the iris and the capsule.

Congenital cataract may, like acquired cataract, assume various *forms;* it may be either lenticular, capsular, or, as is most frequently the case, capsulo-lenticular. According to the opinion of several authors, the different forms seem to be, in many instances, but different stages of transformation.

Mackenzie believes that congenital cataract is generally lenticular at birth, and that only after some months it becomes capsulo-lenticular. The capsulo-lenticular cataract seems to be capable of being transformed into the simple membranous or capsular variety, the substance of the crystalline lens being gradually absorbed, while the capsule is left in an opake state. From the experience of Mr. Saunders, this change appears to be by no means uncommon, and seems to occur principally in children of a more advanced age and in adults, the disease having made already greater progress in these cases.

A peculiarity commonly noticed in cases of congenital cataract is the incessant, irregular, and rapid rolling or oscillation of the eyes; it is explainable by the circumstances that the eyes not being attracted by external objects, volition is not exercised over the muscles of these organs; in some instances, however, this irregular motion seems to be independent of the existence of cataract, and is then more probably owing to a coincident disease, as nystagmus, or clonic spasms of the motor muscles.

Congenital cataract should be operated upon as soon as possible; not only on account of the injurious influence the blindness exercises upon the education and mental development of the child, but also because, if the operation is delayed, the habit of rolling the eyes becomes more and more inveterate, and less controllable by will, the capsule acquires greater toughness, and the sensibility of the eye is lessened with advancing age.

Professor Gross does not hesitate to operate at any period, provided the eye and general system are in a sound condition. He has repeatedly operated upon children under six months, and once upon an infant hardly four weeks old, and in almost every instance with the most gratifying results. Except in a solitary instance, and then he did not have charge of the after-treatment, he has never seen anything like active inflammation after the operation, however early performed. According to his experience, children in general bear this kind of interference much better than grown persons, their nervous system, although easily shocked, recovering much sooner from the effects of the operation than that of adults.

In accordance with the rule laid down by Guthrie, that hard cataract admits only of extraction or displacement, the soft seldom of displacement or of extraction, but usually of division, the proper operation for congenital cases, in which the cataract usually occurs in the soft state, is that of division; this operation is, moreover, best adapted to the cataract of infants and young children, and to cases in which the eyes and the patient are very restless. Of the two methods of performing the operation of division, that of scleroticonyxis, or the posterior operation, deserves the preference. The operation of keratonyxis, or the anterior operation, as advocated by Saunders and others, is not only awkward of execution, especially on restless eyes, but in its performance the iris is more easily injured, adhesions cannot be so easily separated, and the fragments of the cataract are dislodged with greater difficulty.

The most embarrassing circumstances which the operator has to contend with in cases of congenital cataract are the oscillation of the eyes, mentioned above, and the toughness of the capsule of the lens; the latter makes division in many cases unusually difficult, favors the closure of the incisions in the capsule, and, interfering thereby with the quick absorption of the cataract, renders a repetition of the operation necessary.

II. *Cystic Disease of the Testicle, complicated with Scrotal Hernia; Excision; Cure.*—A. S., a German laborer, forty-eight years of age, presented himself at the clinic of Professor Gross, in October, 1859, on account of a large tumor of the right testicle. The man, who was a widower, and the father of four children, had enjoyed very good health. The tumor had existed from his earliest recollection, but had grown very slowly; it had now attained an enormous size, weighing from four to five pounds, and annoyed the patient considerably by its bulk, and a dragging pain in the loins, which was only relieved when the testicle was supported; its surface was smooth, and the skin of the scrotum unchanged in appearance, except that its superficial veins were somewhat enlarged, and rather tortuous. It was but little painful on pressure. Some fluctuation could be felt in its upper portion, but the greater part of it conveyed to the touch the sensation of a solid and elastic body. Its shape was oval, with a somewhat narrow, constricted appearance in the middle. The cord seemed to be in a healthy condition; and there was no enlargement of the glands in the groin.

In consideration of these circumstances, the history of the case, and the healthy look of the patient, the idea of the tumor being of a malignant character could be dismissed without hesitation. From simple hydrocele it distinguished itself by its shape, which was not pyriform, as in the former affection, by its greater heaviness, the absence of distinct fluctuation, by strong compression of the tumor, not causing the sickening pain usually experienced in hydrocele, and by the absence of transparency, which, however, could be ascribed to the thickened state of the sac. In order to render the diagnosis more satisfactory, an exploring needle was introduced into several parts of the tumor. The puncture of the upper portion was followed by the free escape of serous fluid, tinged with blood; the lower portion was found to be solid. It was supposed that the fluid was contained either in an old hydrocele coexisting with the disease of the testis, or in a distinct cyst. A large hernia existed in the right groin, for which the man had long worn a truss.

Operation.—The patient having been put under the influence of ether, a trocar was introduced into the upper part of the tumor, to empty it of its fluid contents. About twenty ounces of a dark and turbid-looking grumous fluid escaped, containing a considerable quantity of cholesterine in the form of innumerable shining particles. The tumor was thus reduced to about two-thirds of its former size, and consisted now solely of the diseased testis, the removal of which was the object of the second step of the operation.

In proceeding to this part, Professor Gross made two curvilinear incisions from the upper part of the tumor to the bottom of the scrotum, along its anterior surface, so as to embrace an elliptical piece of integument which, making proper allowance for shrinkage, would otherwise have been superabundant.

The diseased testicle was then detached from its connection with the scrotum by a rapid dissection, an assistant drawing aside the penis and the opposite gland, so as to prevent their being wounded. The spermatic cord was carefully separated from the surrounding parts, seized with a forceps, which compressed it and prevented its retraction, and cut off just above the tumor. Although the vessels of the spermatic cord were found enormously enlarged, there was no disposition to bleeding. A ligature was passed around the spermatic artery, but not a single scrotal vessel required ligation. The wound was not closed for five hours after the operation, cold water dressing being in the mean time applied to its surface. As soon as reaction took place, and the flaps relaxed, some small arteries of the scrotum commenced bleeding, and were promptly secured. The edges of the wound were then brought together by silver sutures, and dressed in the usual manner.

Progress of the Case.—In the succeeding night some arterial hemorrhage occurred, on account of which some of the sutures had to be opened, in order to tie the bleeding vessels. On the second day after the operation erysipelas commenced to show itself in the edges of the wound, and spread gradually over the surrounding parts, but subsided in the course of a few days, under the use of appropriate applications. Three weeks after the operation the wound had completely cicatrized, and the inflammation had caused the hernial sac to contract to so great an extent that the bowel did not descend below the external abdominal ring, in this way effecting a cure. To guard against accident, however, the patient was advised to wear a truss.

Examination of the Tumor.—On examining the morbid mass, after its removal, it was found to be a *cystic* tumor of the testicle, or what is commonly called a *cystic sarcoma,* and what has been described by Sir Astley Cooper under the name of *hydatid,* or *encysted disease of the testicle.* It consisted of a large multitude of cysts, imbedded in a dense, solid fibro-areolar tissue; the size of the cysts varied from that of a millet-seed to that of a hazel-nut. The younger cysts were composed of a smooth, vascular membrane, containing a thin, serous fluid; the coats of the older and larger ones were thickened and corrugated, and some of them contained a thick, glairy fluid, while others were filled with a more solid substance resembling suet, and consisting chiefly of modified epithelial cells. Microscopic examination proved the absence of cancer cells, and, consequently, the non-malignant character of the disease.

Remarks.—With regard to the nature and origin of the cysts in cystic sarcoma, Professor Gross does not concur in the opinion of Sir Astley Cooper, Curling, and others, that they take their rise in an obstruction and morbid dilatation of the seminiferous ducts. From an examination of the tumors in the few cases which have come under his notice, he has been led to conclude that the tubular structure of the organ had nothing to do with the development of the cysts. It is certain that hundreds, and sometimes thousands, of cysts are formed in the testicle long after its seminal tubes are apparently completely annihilated, as is proved by the large size which such tumors often attain, and by the total absence of the primitive structures. He believes, therefore, that the more plausible conjecture is that the development is effected in the plastic matter which accompanies the morbid action, in the same manner that cells are formed in the original tissues; and he supposes that the cysts found in osteo-sarcomatous formations of the lower jaw and other parts of the body have a similar origin.

III. *Operation for Traumatic Aneurism of the Anterior Tibial Artery; Ligation of the Femoral, and of the Popliteal; Recovery.*— Charles Buxenstein, thirty-five years old, a German by birth, was admitted to the clinic of the Jefferson Medical College, in October, 1859. The patient had served in the army of the United States for nineteen years, and had accompanied Colonel Fremont in his exploring expedition across the continent. He bore the signs of many wounds and injuries about him which he had received in the service, suffering from an old dislocation of the humerus on the right side, from paralysis of the left leg and arm, and from a ball imbedded in the left iliac fossa near the crest of the ilium, in addition to the injury for the relief of which he applied.

On examining his right leg a cicatrice presented itself on the external side, about three inches and a half below the head of the fibula. He had been wounded in this place about four years ago by an Indian arrow, pointed with a locust thorn. On removing the arrow from the wound a jet of arterial blood followed, which was finally stopped by compression. The wound healed; but some time afterwards a pulsating tumor developed itself in its neighborhood; the beating continued until a few months ago, when it became gradually imperceptible. The patient suffered severely whenever he exercised or fatigued himself, and found the motion of the affected limb much embarrassed; he, therefore, desired relief by an operation.

The tumor was of oval shape, a little larger than a goose's egg, and felt very solid; it was situated on the outside of the limb, in the region of the cicatrice, between the tibia and fibula. Professor Gross assumed it to be an aneurism of the anterior tibial artery, but thought it possible that the posterior tibial might be involved, although the tumor projected hardly far enough backward to make such an implication appear very probable. The hardness of the aneurism was ascribed to its being filled with a clot. If the anterior tibial artery was the injured vessel, as it seemed most likely, the wound had been received a short distance below its origin, where the vessel is deeply seated, and ligation of it is difficult to perform.

Some time before the patient applied at the clinic of the college, he had consulted a surgeon in a neighboring city, who advised amputation, a measure to which he objected, principally on account of the condition of his arms, which would have made the use of crutches impossible.

The operation proposed by Professor Gross was to cut down over the anterior tibial artery, open the aneurismal sac, turn out the clot, and ligate both ends of the artery.

Operation.—A tourniquet was applied over the femoral artery, and the patient being fully under the influence of chloroform, an incision, about four inches and a half in length, was made over the tumor, in the direction of the course of the anterior tibial artery. The skin, and the tissues covering the aneurismal sac having been carefully divided, the sac was opened, and an ovoidal, solid clot removed, of the size of a hen's egg; on the cardiac end of the clot a cup-shaped excavation was found, covered with soft coagulum, and evidently owing to the blood of the artery having played against that end. From the deep situation of the artery, on the interosseous ligament, it was found impossible to apply a ligature, and the hemorrhage becoming alarming, ligation of the femoral artery was decided upon. An incision was accordingly made, about three inches in length, in the situation generally chosen, along the inner border of the sartorius, so as to expose the artery in the superior part of its course; the aponeurosis and sheath of the vessel having been carefully divided, the artery was separated from the accompanying vein in the usual manner, and a ligature passed around it. In consequence of this operation the hemorrhage was decidedly diminished, but by no means entirely arrested, and there was considerable arterial bleeding from the bottom of the wound, apparently of a recurrent nature. The operator found it, therefore, necessary to tie the popliteal artery in its lower portion. An incision of about four inches having been made between the heads of the gastrocnemius muscle, the structures of the ham were separated under the precautions usually taken; the artery was finally exposed, separated from the accompanying vein, and a ligature cast around it. This measure arrested the hemorrhage completely.

Progress of the Case.—The patient having been carried to bed after the operation, the limb was placed in an easy and relaxed position. As its temperature was considerably reduced, and the circulation in it but feeble, the parts were wrapped up in wadding. A full dose of morphia was administered immediately after the operation, to tranquilize the action of the heart and allay pain. In the succeeding night, about ten hours after the operation, the limb became warm, the circulation slowly re-establishing itself. During the first few days the traumatic fever was but moderate; the wound over the femoral artery seemed disposed to unite by the first intention; that over the popliteal nearly so; that over the aneurism was suppurating. Four days after the operation, however, there was a considerable increase of the fever; erysipelas developed itself in the wounds, and gradually spread nearly over the whole surface of the limb. During the next few days the aneurismal sac sloughed out; local gangrene developed itself in a strip of skin, about one inch and a half in width, and extending from the wound over the popliteal artery, on the outside of the leg downward to about its middle. Under the use of tincture of chloride of iron internally, and the external application of pyroligneous acid, the erysipelas gradually subsided, and the sloughs detached themselves, leaving a healthy granulating surface. The ligature around the popliteal artery came away on the eleventh day, that around the femoral on the fifteenth day. Nine weeks after the operation the wounds had healed kindly; the patient had rapidly recovered his strength under the use of tonics and a nutritious diet, and had the perfect use of his limb.

An interesting point in the case is, that when under the influence of chloroform, during the period of excitation, the left arm and leg, which were completely paralyzed and useless, exhibited more strength than the sound ones. From the date of the operation the limbs gradually regained their functions, and the patient could very readily use the hand and foot when he was dismissed. The paralysis had existed for nine years.

IV. *Serous Cyst of the Neck, cured by Palpation.*—J. C., a male child, two months old, was brought to the clinic in June, 1859, on account of a congenital tumor on the left side of the neck. The child had been born with atresia of the anus, for which it had been operated upon; it was otherwise well developed and healthy. At its birth the tumor was about as large as a duck's egg, but had somewhat increased in size since that time, and extended now from the lower margin of the inferior maxillary bone to a short distance above the clavicle. It was free from pain, did not interfere with respiration or deglutition, and did not move on swallowing. The skin covering it was perfectly natural. Examined by transmitted light, the tumor was found to be to some degree transparent; it felt equally tense to the touch in all its parts, and fluctuated under pressure.

These symptoms plainly indicated the character of the swelling; it was evidently a *simple serous cyst* of the neck—the *hydrocele of the neck* of some writers. With a view to the radical cure of the affection, Professor Gross proposed the introduction of a seton; but the mother refusing to subject the child to this measure, the operation of tapping was resorted to. The tumor was punctured with a delicate trocar, the opening being followed by at least two ounces of serous fluid. The tumor disappeared, and the wound soon healed. In the early part of September, about twelve weeks after the operation, the child was brought back to the clinic, on account of the swelling having reappeared. The tumor was subjected on this occasion to a thorough examination by palpation, but no operation was performed. In the evening of the same day the patient was seized with fever and restlessness, and the swelling, increased considerably in bulk, became very painful. Three days afterwards, when the child was again seen, the tumor was found to be hot, hard, very tender on pressure —the skin covering it being discolored—and the fever having reached a high degree.

The palpation made at the previous examination had evidently excited inflammation in the cyst, and the plan of treating the case by the seton was therefore abandoned. Taking the cicatrice left after the former operation as a guide, a puncture was made in the tumor, which was followed by the escape of sero-purulent fluid, tinged with blood. Fomentations, containing acetate of lead and opium, were ordered, the patient purged with castor-oil, and one drop of tincture of aconite administered every hour until the fever had subsided. Next day the tumor was painted over with the diluted tincture of iodine, and covered with a poultice. Two days afterwards a second puncture was made, and a tent introduced into the opening. The discharge of healthy pus continued, and the fever lessened in degree. When the patient was taken home, ten days after his admission, the tumor was much diminished in size, solid, and almost free from pain; the discoloration around it had almost entirely disappeared, and the cure was nearly complete. Four weeks after the operation the child was entirely well.

V. *Ganglions of the Wrist cured by Subcutaneous Division, followed by Compression.*—Henry H., seventeen years old, by profession a barber, presented himself at the clinic of the college, in November, 1859, on account of two small, ovoidal tumors on the extensor side of the wrist, which interfered somewhat with the motion of the joint, and the exercise of his profession.

The tumors, which had began to form about seven months ago, were of a round shape, about the size of a marble, painless, unaccompanied by any discoloration of the skin, elastic, and movable. The patient could not remember having sprained or bruised the part at any time previous to their appearance. Professor Gross diagnosticated them to be *ganglions;* that is, small encysted tumors formed in the course of one of the extensor tendons.

In the *treatment* of the case a delicate tenotome was introduced subcutaneously, and the cysts cut up as minutely as possible. On puncturing the tumors, a yellowish, jelly-like substance escaped, and they became completely effaced. After the operation compression was made with a compress and piece of coin, confined by a bandage, and the patient ordered to keep his arm at rest in an elevated position, and to restrict himself to a light diet. The local inflammation following the operation was but slight, and soon subsided. Under the external application of tincture of iodine, in conjunction with the treatment here mentioned, the cure was completed within a few days, no trace of the swellings being left.

Remarks.—Professor Gross is inclined to ascribe the origin of tumors of this kind to inflammatory action, having observed them most commonly in hard-working people. He assumes that they are merely sacculated expansions of the sheath of the tendons, and not a new formation, as some pathologists suppose. The sac consists of a single layer, rarely thicker than the dura mater. While a common mucous burse usually secretes a fluid like ordinary synovia, a ganglion contains a yellowish, viscid, and transparent fluid, resembling white of egg, or, as in the case reported above, jelly; in old cases the contents are sometimes more solid, and consist of masses of semi-organized lymph, or small fibroid bodies, usually of the size and shape of cucumber-seeds. In a ganglion of the hand, upon which Professor Gross operated a few years ago, he observed these bodies in a variety of singular shapes—round, oval, and spindle-shaped, with a number of prolongations; they were evidently merely masses of organized lymph, which had been originally adherent to the walls of the sac, and had become detached in consequence of the friction of the tendon against the sac. Ganglions are most liable to form on the extensor tendons of the hand or wrist, although they are occasionally met with in other parts of the body. Professor Gross operated, in 1854. before the medical class of the University of Louisville, upon a young woman who had two tumors of this kind, each of the size of a small bird's egg, upon the dorsal surface of the foot. There are cases on record—and one of them has come under Professor Gross's own observation—where a ganglion was situated over the radial artery, and was, from the pulsation communicated to it, at first supposed to be an aneurism. Ganglions can be but seldom cured by stimulating applications; although the external use of iodine, and systematic compression may, in recent cases, sometimes produce absorption, and lessen the size of the tumor, the fluid in the cyst generally accumulates again. The best and most simple plan is to make firm pressure upon the sac, so as to rupture it, and allow the contents to escape into the surrounding cellular tissue; absorption will then take place, and may be rendered more speedy by the application of iodine; after the evacuation of the cyst, a compress and bandage should be applied to the part, to promote the union of the opposite side of the cavity by adhesive inflammation. In recent cases the rupture of the sac can be effected either by pressure of the thumb, or by striking the tumor with a large book; in cases of long standing, where the wall of the cyst is thicker and firmer, it is best to make a subcutaneous puncture. If the ganglion resists these measures, it is most effectually destroyed by introducing a bistoury subcutaneously, cutting it up into small pieces, and afterwards applying compression. It has been recommended by some surgeons to treat these cysts after the manner of hydrocele, by introducing a seton, or by injecting iodine; but the success which has attended this method does not speak much in its favor. As a general rule, free incision into the tumor, or excision of it, should be avoided, as it is liable to give rise to a high degree of inflammation, the results of which might endanger the use of the joint; still there are cases on record in which extirpation has been successfully practiced, and this plan of treatment has the support of old authorities, such as Celsus and Paul of Ægineta.

VI. *Polyp of the Rectum.*—Mary H., seven years old, was brought to the clinic, in October, 1859. The patient had complained for a long time of an uneasy sensation in the rectum, and had a frequent desire to evacuate her bowels; the act of defecation was attended with considerable straining, and occasionally with some bleeding; her linen was soiled by a discharge of reddish mucus from the anus; her mother's attention became directed to these symptoms, and she discovered that a small tumor protruded from the anus, whenever the child evacuated her bowels. On examining the prolapsed mass, it was found to be a polyp, consisting of a cherry-like tumor attached by a long, slender pedicle to the mucous membrane of the rectum. It was painful on being touched, of a scarlet color, soft and spongy in its consistence, and evidently highly vascular.

Operation.—Preparatory to the operation, the patient was freely purged, so as to avoid disturbance of the bowels for several days afterwards. The tumor having been forced beyond the sphincter, by straining over the chamber, it was seized with a vulsellum, and a ligature applied around its pedicle, as high up as it could be reached. It sloughed off very readily, but there remained a small portion of the pedicle within the rectum, which gave rise occasionally to slight bleeding, and may require further treatment. The bleeding, however, has of late disappeared, and the general health is greatly improved.

VII. *Stone in the Bladder; Lateral Operation; Unusually Small Calculus; Cure.*—John P., twenty-eight years of age, a miner, who had recently arrived from California, was admitted to the clinic of the College, in October, 1859. He had suffered for the last eighteen months from incontinence of urine, pain in making water, which increased as soon as the bladder was emptied; frequent desire to micturate, pain and itching at the head of the penis and at the orifice of the urethra, and a sense of uneasiness in the lower part of the pelvis. His urine became cloudy as soon as it began to cool, from the admixture of a considerable quantity of mucus. Professor Gross, suspecting the presence of a stone in the bladder, examined the case by sounding. The patient, who had sufficiently recovered from the effect of his voyage, was ordered a mild laxative the evening before the examination, in order to rid the bowels of impacted fæcal matters. A steel sound of moderate diameter was introduced into the bladder, the patient being in the recumbent posture, and was distinctly felt to grate against a foreign substance on the left side of the bladder; it was at first found impossible to produce the characteristic click, but at a subsequent examination it became quite perceptible. The introduction of the finger into the rectum led to the detection of a slight enlargement of the prostate gland, but afforded otherwise only a negative result.

The existence of a stone having been fully ascertained, Professor Gross proposed to remove it by the lateral operation, to which he gives the decided preference over all other procedures, on account of the remarkable success which has hitherto attended it. The patient was subjected for a few days to a preparatory treatment, consisting of rest, abstinence from animal food, and the administration of aperient medicine.

Operation.—The patient having been put under the influence of chloroform, and placed in a proper posture, a grooved staff was introduced into the bladder, and confided to an assistant, with the direction to incline it slightly toward the right side, so as to make the curved portion bear against the left side of the perineum. The operator, kneeling on the right knee, introduced the left index finger into the rectum, to induce it to contract, and to ascertain the position of the staff; and stretching the skin of the perineum with the thumb and fingers of the left hand, introduced the point of a slender, sharp-pointed scalpel, about an inch and a quarter above the verge of the anus, near the raphé, on its left side, and made an incision three inches in length, carrying it obliquely downward and outward, to a point midway between the tuberosity of the ischium and the anus. Then placing the point of the left index finger in the upper angle of the wound, he divided, by repeated strokes, the deep cellular tissue of the perineum, the transverse muscle, and a portion of the triangular ligament, with a few of the fibres of the elevator muscle of the anus. The membranous portion of the urethra having thus been exposed, a little in front of the prostate gland, the operator felt for the groove of the staff, at the bottom of the wound, and having found it, cut into it through the urethra, using the finger-nail as a guide to the point of the knife. The knife, inserted into the groove of the staff through the opening in the urethra, which was about one-third of an inch in length, was now carried on into the bladder, dividing, as it passed along, the neck of the organ, and, to a limited extent, the left lobe of the prostate, in a direction obliquely downward and outward. During this step of the operation the rectum was kept out of the way by being pushed to the right side by the left index finger. The incision into the bladder was followed by a gush of urine; the knife was now removed, and the finger, lying in the bottom of the wound, placed in contact with the staff, which was then withdrawn. The finger was carried into the bladder, and, after a short search, came in contact with the stone, which was of very small size, and easily extracted with the forceps.

As soon as the stone had been removed the bladder was washed out with tepid water, so as to get rid of any fragments which might have been left behind. The hemorrhage during the operation was very slight, and easily arrested.

The *after-treatment* was conducted on the usual plan. The progress of the case was not interrupted by any bad symptom, with the exception of a slight venous hemorrhage from the bladder, which occurred four days after the operation, and was promptly arrested by the use of a silver tube, inserted through the wound into the bladder. The wound united without difficulty, and five weeks after the operation the patient was discharged, entirely well. The weight of the calculus hardly exceeded *six grains.* The severe suffering which the patient had so long endured had evidently been occasioned by the frequent intromission of the stone into the mouth of the urethra during micturition.

VIII. *Rapidly recurring Cancer of the Breast.*—This interesting case was brought before the class of the Jefferson Medical College, in November, 1859. The patient, an unmarried servant-woman, forty years of age, whose menstrual functions were performed regularly, had been operated upon for encephaloid cancer of the left breast, on five previous occasions. In the first three operations the gland was but partially removed, leaving the greater portion as the nidus for new formations. About two years and a half since the first tumor made its appearance, and was extirpated at the expiration of four months. The second soon began to develop itself, and was removed in nine months. In a few weeks the third tumor commenced to grow, and was excised in seven months.

In May, 1859, when, through the kindness of Dr. Russell, of this city, the case came under the notice of Professor Gross, a fourth tumor had made its appearance, which he removed, together with what was left of the affected gland, on the twenty-fourth of the same month, four months and a half after the last operation. It is worthy of notice that until then the tumors had never chosen the cicatrices of the former operations for their seat. After the fourth operation, however, the cicatrice became the seat of the disease; a tumor formed in the upper angle of it, and rendered a fifth operation necessary, which was performed on the seventh of September, about three months and a half after the previous operation. Since then the lower angle and middle part of the incision of last May had become involved by tumors, which, enlarging at a rapid rate, rendered interference with the knife again necessary, although but two months had elapsed since the performance of the last operation.

The tumors were removed by Professor Gross, in the presence of the class, on the fifth of November, this being the sixth operation which had been performed for the same disease in the last twenty-six months.

The woman's general health had always been excellent; she had always made good recoveries from the operations, and there is no cancerous disease in the family.

All of the tumors which had been extirpated were tuberculated, firm, and compressible, and inclosed in an imperfect cyst, formed by the condensation of the surrounding cellular tissue. There was no retraction of the nipple, and no involvement of the neighboring lymphatic glands. The subcutaneous veins were enlarged, and the tumor was the seat of sharp, shooting pains, extending to the shoulder.

Physical examination showed that the tumor was encephaloid, which was confirmed by the microscope, a great number of very large cancer cells being present.

The points of interest in this case are, the rapid recurrence of the cancer; the non-involvement of the axillary lymphatic glands; the apparent absence of cancerous cachexia; the good health of the patient; and the non-appearance of tumors at the cicatrices of the first three operations.

Excepting the rapid recurrence of the disease, this case is probably an illustration of the majority of those cases of cancer which, excluding the possibility of a mistake in the diagnosis, have been reported as cured by an operation. A patient may recover quickly from the operation, enjoy very good health, there may be no trace left of the local affection, and the disease may not recur for some time; the surgeon, believing that he has eradicated the evil, publishes his triumph, and afterwards loses sight of the case. But unless cases of cancer are watched until the death of the patient, the statistical information they afford in regard to the result of operation, are unreliable and perfectly useless.

ART. II.—*A Case of Degenerated Bronchocele of enormous Size, cured by Medical and Surgical Treatment.* By O. B KNODE, M.D., of St. Joseph, Missouri.

JOSEPH REMELE, of Palermo, Kansas Territory, aged thirty-seven years, a native of Switzerland, but a resident of this country for nine years, presented himself to me for the first time about fourteen months ago, with an enormous tumor situated on the anterior part of the neck and breast. He stated to me that about fourteen years ago the tumor commenced to enlarge, and grew slowly until the last four or five years, when it increased more rapidly, during which time he suffered a good deal of pain and uneasiness, rendering him incapable of labor. When in his native country he had used some local applications to it, prescribed by a physician, but since his residence here had done nothing for it. The middle of the base of the tumor was situated about the region of thyroid gland, extending on either side nearly as far as the acrominal ends of the clavicle. The tumor measured eighteen inches in length, reaching some distance below the ensiform cartilage, and had a circumference of a little more than two feet; it hung pendulous, and detached from the chest about half its length, so that the hand could be pushed between it and the sternum and ribs, which were greatly depressed and thinned by absorption, produced by the long-continued pressure and great weight of the tumor. It fluctuated on percussion, but was so tense that nothing but fluid could be detected. Looking upon it as a case of degenerated bronchocele, and with the exploring-needle satisfying myself that it contained a fluid, I plunged a bistoury into its most pendulous point, and withdrew a gallon and three pints of inodorous and insipid fluid, about the color and consistence of weak coffee; after its withdrawal, the great tension being relieved, I could discover within the immense remaining wrinkled sac a large, contorted, nodulated, hard tumor, as large as two stout fists, which seemed to have two or more attachments, one seemingly to the hyoid bone and thyroid cartilage, as large apparently as the wrist. Another attachment, about half as large as the first, seemed to have its insertion about the origin of the left sterno-cleido-mastoid muscle, and another intermediate, which I could not well define. When the tumor was lifted up, and grasped firmly in the hand, the enlarged thyroid arteries could be felt pulsating. I determined to remove the tumor with the écraseur, provided nothing could be done by medicine and other means; yet I intended to give him the full benefit of the iodides, before resorting to so serious an operation. I consequently strapped the tumor as tightly as possible with adhesive plaster, and put him upon iodide of potassium, five grains three times a day. I did not see him again for two weeks, when he sent for me, and I found the straps had become loose, and the orifice of the wound made for the exit of the fluid had closed, and a reaccumulation of it, to the amount of half a gallon, had taken place, which I at once removed, leaving this time a tent in the wound, to be withdrawn every day or two, to permit the fluid to escape; a good deal of blood was mixed with the serum at this time. I found also that the large knobby internal tumor had somewhat diminished in size, and was much softer to the touch. I strapped it again tightly, and continued the same prescription, increasing each dose two grains. The wound continued to discharge for five or six days, when it entirely ceased, and the tumor commenced to decrease rapidly in size; and, under the use of the same prescription for two months longer, was almost entirely removed. To-day, October 20th, 1859, nearly fifteen months since I first saw him, he walked a distance of ten miles to visit me, in the enjoyment of most excellent health, and greatly delighted at the removal of the immense load he had been carrying for so many years. The site of the former tumor is now only perceptible in a flabby, wrinkled state of the skin, as large perhaps as the hand, with the thyroid gland as large as a small orange, and very hard, and he tells me that it is still growing gradually less; his health and spirits are excellent, and is once more enabled to do all sorts of work and in all kinds of weather; and, finally, what is always so agreeable to the physician, can scarcely find words sufficient, in his broken German, to express his great gratitude for his deliverance from his terrible burden.

ART. III.—*Treatment of Stomatitis Materna by the Syrup of the Phosphates.* By E. J. FOUNTAIN, M.D., of Davenport, Iowa.

IN the last number of this journal is reported, by Dr. J. C. Reeves, of Ohio, a case of stomatitis materna, successfully treated by the syrup of the phosphates. In conclusion, the writer remarks: "It is a single case, and as such is only valuable as encouraging to those who have cases upon which they have exhausted remedies and patience, to make one more trial."

This invitation to the profession induces me to communicate the result of my experience in the same treatment of this disease.

Where the encouragement of hæmatosis is so plainly indicated as in stomatitis materna, it is not surprising that the so-called "chemical food" should have been suggested as a suitable remedy to a number of practitioners, independently of each other. All, however, must be indebted very much to Dr. David Hutchinson, of Indiana, whose excellent exposition of the pathology of this disease, in the "Fiske Fund Prize Essay" of 1857, plainly suggests the use of blood-making remedies.

At the last meeting of the Iowa State Medical Society, held at Davenport, June, 1859, I verbally reported the successful treatment of several cases of stomatitis materna by the use of the syrup of the phosphates.

Upon the appointment of a committee to report on this disease at our next meeting, I called the attention of the Society to the use of this remedy, which I had tried in four well-marked cases with happy effect, and recommended the members to give it a trial in their practice, to test its value.

It is now generally conceded that this disease is the result of a peculiar impoverishment of the blood, resulting from the tax upon its substance by the development of the fœtus, and subsequent lactation. Naturally, the functions of digestion and assimilation are adequate to the supply of this demand, but the tendency of modern civilization and fashion leads to such a derangement of the digestive organs that we often find ladies assuming the responsible duties of maternity who have scarcely vitality sufficient to support their own feeble constitutions. The wonder is, not that nursing sore-mouth is so frequent in our day, but that kind nature does not more frequently protest against the ill-treatment imposed upon her.

Sympathy with the gravid uterus undoubtedly increases the debility of the digestive organs when a predisposition exists to such a difficulty; but without this predisposition I believe it will not, of itself, produce it. The indication is, therefore—first, to improve the tone of the digestive apparatus; and next, to supply it with such nutriment as will be most readily assimilated into good blood, and especially such as is needed for fœtal growth and subsequent lactation. When the tax upon the blood has been greater than the supply, it is proper to furnish something which will quickly restore the balance, by which the excess of fibrin will be reduced, and its peculiar effect (the precise connection with which is not yet well understood) upon the mucous membranes of the mouth and alimentary canal be arrested, and the general health restored. By this view of its pathology the plan of treatment is clearly indicated; and the syrup of the phosphates, or "chemical food," occurred to me as an appropriate remedy. On its first trial the disease soon disappeared, but I thought the recovery might be due to natural causes, uninfluenced by the treatment. After this, I had an opportunity of testing it in three cases, in each of which the administration of the remedy was soon followed by complete recovery. In one very severe case I had to aid the treatment by adjuvants, to meet particular indications: as opiates and astringents to check a diarrhœa, and bismuth and antacids to correct disordered digestion; and the recovery was further promoted by the use of cod-liver oil, as recommended by Drs. Evans and Byford, of Chicago.

These cases impressed my mind with the belief that, in the syrup of the phosphates, freely administered, we had a pleasant and efficient remedy for the fulfillment of the most important indication. In simple and mild cases it has appeared to be the only remedy needed; but in those of a more aggravated character it cannot be depended upon as a specific, but must be aided by other treatment appropriate to particular symptoms.

In the case last referred to, I increased the strength of the syrup by the addition of an extra quantity of the phosphate of iron and phosphate of lime, giving to the patient five grains of each with every dose, and finally administered in connection with cod-liver oil.

The cases here mentioned, together with the one reported by Dr. Reeves, are not sufficient to establish the remedy as one that can always be depended upon; but they furnish a strong presumption in favor of the treatment, and in confirmation of the theory by which it was suggested.

ART. IV.—*Spontaneous Amputation below the Knee.* By JOHN G. KERR, M.D., of Canton, China.

THE subject of this notice is a Chinese, now forty-three years of age, a native of the District of San Ui, in Canton Province. He was for several years employed by foreigners in Hong Kong and Canton, in the various capacities of coolie, servant, and cook. His constitution was good but not robust, and he had always enjoyed good health. He was active and attentive in doing his work.

About the month of June, 1848, when he was thirty-two years old, his left leg was attacked with an inflammatory swelling, which began just above the knee, and extended until the whole limb became involved. When the disease had continued about three weeks, he was admitted into the Rev. Dr. P. Parker's Hospital, where he was under treatment one month. Not being relieved, and refusing to submit to amputation, he was removed to his native place, about seventy-five miles from Canton. At this time his limb was much enlarged and very painful. He was excessively emaciated, and his appearance was withal so haggard, that those interested in him had no thought of ever seeing him again.

For two months after his removal to the country he was treated by native doctors, and still receiving no benefit, he gave up all professional treatment. About this time an abscess opened just above the knee and a little to the inner side of the thigh. This discharged profusely for a time, but without effectual relief. The inflammatory action in the tissues of the leg had resulted in such changes of structure as to interfere with the circulation and innervation of the limb; and about the middle of November mortification took place. He says this occurred without much change of color, but the skin lost its sensibility, became cold, and then the toes, foot, and flesh dropped off one after another, and in three or four days the bones of the leg were left bare and dry. There was no hemorrhage, and it seems that at the line of separation very little suppuration occurred. The abscess above the knee now gradually healed, and the general health improved. About four months more were required to cast off the bones of the leg; this took place in March, 1849, and in two months more the end of the stump was covered with skin.

The stump is now six inches long below the knee, and three and a third inches in diameter at its middle. The bone separated obliquely, leaving the end shaped somewhat like the point of a pen; and, as there was no muscle to cover it, the end is quite conical and sharp. The new skin over the end of the bone is thin, and shows irregularities of surface at the place of separation, but it has not been abraded since it first healed up. A cicatrice just above the knee marks the place where the abscess was discharged.

The stump is held at right angles with the thigh by the contraction of the flexor muscles, but the knee-joint is not anchylosed. The motion is free, as far as the contracted muscles will admit of it.

The particulars of the above case I have learned, by careful inquiry, from the man himself, and from the gentlemen in whose employ he was at the time of and before his sickness. I have depended upon his memory for the dates, and I believe them to be correct, or as nearly so as could be expected after the lapse of so long a time.

The interest of the case would be increased if a full report of it had been made at the time of its occurrence; but the facts as above stated are sufficient to show how much nature is able to accomplish under the most unfavorable circumstances. It also shows how much suffering men have to endure who have not the aid of scientific medicine and surgery. I see multitudes of cases where very simple operations would have prevented long-continued suffering. Only a few days since I extracted an iron bullet from a man's shoulder which had been there for more than four years. The cases where caries of the bones causes protracted irritation are very numerous, and for such, native physicians have no adequate remedies.

ART. V.—*A Case of Inversion of the Uterus Successfully Reduced.* By WM. IRVIN, M.D., of Breakneck, Butler County, Pennsylvania.

ON the 26th of November, 1858, I was called to see Mrs. W., forty-eight years of age, in labor with her eleventh child. She was a large, healthy woman, with an exceedingly roomy pelvis and pendulous abdomen. I found the os soft and dilated to the size of a silver dollar, but the pains were not strong for about six hours, when two or three uterine contractions were sufficient to expel the child, at the same time inverting the uterus with the placenta adherent. The cord being very short, the weight of the child dragged down the organ between the thighs nearly as far as the knees.

I severed the cord, and made several unsuccessful attempts to reduce the uterus, with the placenta still adhering. The hemorrhage became very alarming, and the woman was sinking, when I remembered Professor Meigs's injunction tc remove the placenta and return the organ by pressure upon its fundus. I therefore detached it as quickly as possible, and had the satisfaction of finding that the bleeding was much diminished.

Placing my right hand under the uterus, and supporting it in a line with the axis of the pelvis with my left, I pressed the tips of my fingers firmly against the fundus and pushed it upward. After a little while the tumor softened, and I found I had indented the fundus, the pressure being continued until my fingers were arrested by the contracted os, which yielded in about one minute. I then carried my hand upward in the pelvic axis, and when I had introduced my arm, half way to the elbow, the fundus suddenly shot away from my hand, and the organ resumed its natural position. In a few minutes a contraction came on, and the organ returned to its proper situation.

I watched the patient four hours, enjoining strict recumbency and rest. The case afterwards proceeded as usual, and the woman made a speedy recovery.

ART. VI.—*Proceedings of the Pathological Society of Philadelphia.*

WEDNESDAY EVENING, Sept. 28th, 1859.

The President, DR. LA ROCHE, in the Chair.

Chronic Thickening of the Peritoneum, occasioning a Friction Sound.—DR. HUTCHINSON remarked on this case as follows:—

Daniel Smith, aged 66 years, a native of Germany, a ragpicker, was admitted into the Pennsylvania Hospital August 12th. We could learn very little of his history; but he asserted most positively that he had been sick for only six weeks, and that, previously to that time, he had been able to follow his usual occupation. His son has since told us, that twenty years ago it was thought he had phthisis, but that he entirely recovered, and has since then enjoyed good health.

At the time of his admission he was exceedingly emaciated and pale. He stated that he had become so during his illness. His pulse was always over 100, and in the evening it frequently ran up as high as 120. His skin was harsh, dry, and hot. His tongue slightly coated and dryish. The percussion was abnormally clear over all parts of the chest, except between the scapulæ; on the left side it was slightly dull; on the right, more so. A mucous râle was heard at the lower part of the right lung; in all other parts the respiration was normal. There was no cough, excepting toward the close of his life. The abdomen was drawn in, but not irregularly nodulated, as it usually is in tubercular peritonitis; it was tender to the touch, and imparted a sensation of doughiness to the hand. When the hand was passed over the abdomen, so as to cause one surface of the peritoneum to rub against the other, a grating sound was heard, and on one occasion a full respiration was sufficient to produce it; grating was also felt distinctly by the fingers. Percussion over the region of the liver indicated rather a diminution of its size. The spleen was not enlarged. He had one or two passages from his bowels daily, which were small and whitish. The urine was natural. The treatment adopted was entirely of a supporting nature. He was removed from the hospital three days before death, and died September 25th.

An autopsy was made eight hours after death. The head was not examined. *Thorax.*—Both lungs were found bound to the parietes of the chest by old adhesions, the right completely so; they were studded with large irregular masses, which were found in some cases to inclose a cretaceous substance; in the neighborhood of these nodules, and in other parts of the lungs, there was a deposit of carbonaceous matter. A similar deposit had taken place in the bronchial glands. The only healthy portion of the lungs was the lower lobe of the left lung. The heart was of normal size, and presented no traces of disease, with the exception of a slight ossific degeneration of the aortic valves. *Abdomen.*—The peritoneum was found to be very much thickened, having in the median line a thickness of a quarter of an inch; on its surface were numerous minute elevations, about the size of a millet-seed. The whole of the small intestines were glued together. The liver was so adherent to the diaphragm that some force was necessary to separate it from its attachments. It was found somewhat smaller than natural, and had upon its surface bodies similar to those seen upon the peritoneum; the finger could readily be passed through its substance. The pancreas, stomach, and kidneys were healthy. There was but a small amount of effusion into the cavity of peritoneum. The deposit in the lungs, when submitted to microscopical examination, was believed to be tuberculous; its being cretaceous, and surrounded by a carbonaceous substance, gave rise to the opinion that it had been deposited twenty years before his death.

I may state, as bearing on the case, that Bennett, in his "Lectures on Clinical Medicine," says, "Nothing is more common than to see chronic tubercles surrounded by black pigmentary matter." Rokitansky also notices the association of black pigment with old tubercle.

WEDNESDAY EVENING, Oct. 12th, 1859.

Vice-President, DR. STILLÉ, in the Chair.

Chronic Gastritis, Duodenitis, and Colitis.—DR. J. F. MEIGS exhibited, through the Secretary, specimens of these disorders; accompanying them were these notes of the case:—

William C., aged 22, born in Ireland, a hackman in Philadelphia; had been in this country five years. Never sick in bed before last spring; but once, while in Ireland, had had a pain in the breast. Went to Cuba about March 1st, to work on the railroad from Havana to Matanzas; was taken sick with severe fever three days after arrival; was delirious, and very sore over stomach. He was cupped on breast and back of neck, and well purged and vomited. He was sick ten days before he went into the hospital, where he lay about two months; in the hospital he had chills and fever, and a little diarrhœa. Started for home about the end of May. During last half of passage was very sick; had severe diarrhœa for two weeks. Landed at Philadelphia 19th June, where he lay at a boarding-house, very sick. He had chills, and was cured; then seized again, and entered the Pennsylvania Hospital July 14th; was treated in hospital; went out much better, after two weeks, and did pretty well until Thursday, August 18th, when, late in the day, after dinner, he threw up his meal and a *large quantity* of dark blood; entered hospital again Monday, August 22d.

Condition on admission.—Very pallid and unhealthy looking; just the aspect of chronic intermittent; not emaciated, but somewhat thinned; quite able to walk about; no fever; no pain, except in epigastric region, where there was decided tenderness, without tumor. He had at this time very slight diarrhœa: ordered him quinine and iron, diet of arrow-root and milk, and to lie abed. But he grew gradually worse, ejected almost everything at times from the stomach, and then would pass two and three days without vomiting. The diarrhœa was moderate at first; stools thin, like gruel, containing flocculent, feculent matter, floating in liquid; color yellowish and brownish; no mucus noticed; no tenesmus; no griping; no blood at any time seen in the stools; at no time indeed was there the characteristic slimy and bloody discharge of dysentery. Tongue generally clean; never much furred; smooth, soft, and moist, until toward the end. It was never red, glazed, nor shining; but smooth, and at times rather polished; no aphthæ nor exudation. At no time had he any violent fever, yet there was at times a slight febrile irritation; no sweatings. Nothing, either dietetic or medicinal, exerted any positive control over the symptoms. Milk, mixed with lime-water, and containing small quantities of brandy, was tried after the arrow-root gruel with milk had failed. Beef tea, chicken soup, meat of chicken, mutton chop, all failed in turn; toward the last, yolk of egg in wine, with small quantities of beef essence, suited best. After the quinine and iron, he was treated with creosote, with bismuth and chalk, with kino and opium, and laudanum enemata, with tannin, were used. When he had been in the house two weeks, he became decidedly, though never deeply, jaundiced. This subsided, and disappeared about two weeks before his death; still, the urine never contained bile, and the stools were never clay colored. When he entered there was decided enlargement of spleen; it could be felt, jutting three or four inches from beneath the left margin of the thorax, and the dullness over the left hypochondriac region was augmented beyond its natural area, but the size of the organ diminished after about two weeks treatment. We also found unusually strong pulsation of the abdominal aorta; and a hard body could be felt across the aorta, just above and to left of umbilicus. Dullness was observed under the right margin of thorax. There was also a well-marked systolic mitral murmur.

Autopsy.—The lungs were healthy. The heart not altered in structure, even the mitral valves being quite healthy, and showing that the mitral murmur, heard during life, must have been the result of the anæmic state of the blood. Stomach very much dilated; its mucous coat thickened and softened, and deep in color; no large ulcerations, but a few small, superficial ones, such as are called by Rokitansky hemorrhagic erosions. Duodenum very considerably dilated, and all its coats, especially the mucous, thickened, and the latter also softened, but presenting no ulcerations; the lower extremity of this intestine was found to be fastened to the edge of the liver and to the gall-bladder, by quite strong adhesions. Pancreas enlarged and hardened, but not scirrhous, nor exhibiting any appearance of recent inflammation. Spleen natural. Liver decidedly enlarged, with its lobular structure extremely well marked; it presented the appearance called nutmeg. Kidneys presented nothing remarkable. Small intestines healthy. Large intestines extensively and most seriously diseased. The cæcum showed an advanced condition of inflammation and ulceration.

The ascending and transverse colon exhibited the same appearances, in a somewhat less advanced degree. The descending colon and the rectum presented a mucous membrane deeply inflamed and ulcerated; the color dark, deep red, with very numerous ulcerations, while between the ulcerations portions of mucous membrane retained their natural structure, except that they were deep red in color, and thickened. The appearances here seen were such as Habershon has described; large portions of the mucous membrane being lost, the remaining portions looking like small polypoid formations.

The most interesting feature of this case was the singular latency of the colitic disease, so far as any dysenteric symptoms went. The patient had neither pain in the intestine, soreness to the touch, mucous, or bloody stools. There was, I am sure, at no time, though the stools were repeatedly and carefully examined, any appearance of mucus, blood, or pus; nor a complaint of pain, nor tenesmus, or straining. There was severe diarrhœa toward the last, but no dysentery, and the gastric symptoms, as exhibited by hæmatemesis, and almost constant vomiting, were most severe and prominent. In fact, the gastric symptoms predominated so much from the beginning, and throughout the case, that attention was drawn away from the intestines as the chief seat of disease. The severity of these symptoms was due, no doubt, to the extensive changes which had taken place in the stomach and duodenum, both of which organs exhibited thickening, with softening of the mucous membrane, and very considerable dilatation. This diseased condition, especially the dilatation, were probably due, in part at least, to the adhesions which fastened the lower end of the duodenum to the liver and gall-bladder. These adhesions interfered with and impeded the peristaltic movement of these two viscera, and thus gave rise to inverted action, and assisted greatly in the production of the frequent and severe vomiting.

The diagnosis might have been in all probability made, had proper attention been given to the history of the case. The origin of the attack in a hot climate, where intestinal diseases and complications are frequent, ought to have directed more careful observation to the large intestines, in spite of the predominance of the gastric symptoms, when, perhaps, a still more minute examination of the stools might have revealed deposits of pus, or shreds of false membrane.

DR. GROSS did not think it possible that a mucous surface as diseased as the one on the table should not have secreted pus.

DR. KELLER believed that the patient had been seized at the onset of the attack with dysentery, and not with fever, as reported.

Report of Committee on a Plastic Cast of the Bronchial Tubes.—The committee to whom the specimen of plastic exudation from the bronchi, exhibited by Dr. S. D. Gross at the last meeting but one of the Society, was referred for examination, beg to submit the following report:—

Examined microscopically, the structure was found to consist of very fine fibres, arranged nearly parallel to one another, and having a slightly wavy course, (ordinary areolar tissue.) Nuclei were abundantly distributed along the bands so formed, and some free nuclei were also present.

A small number of non-ciliated epithelial cells of the squamous variety, probably from the bronchial tubes, were also observed.

The committee compared this case with the analogous ones collated by Dr. Peacock, in the Proceedings of the London Pathological Society, vol. v., and with those published by the same gentleman, in the London Medical Times and Gazette for 1854; and they regard this specimen as quite remarkable for its size and perfectness.

Fig. 9.

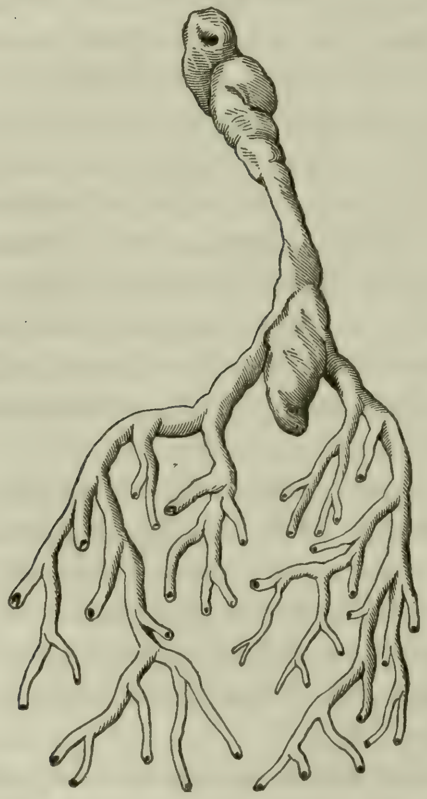
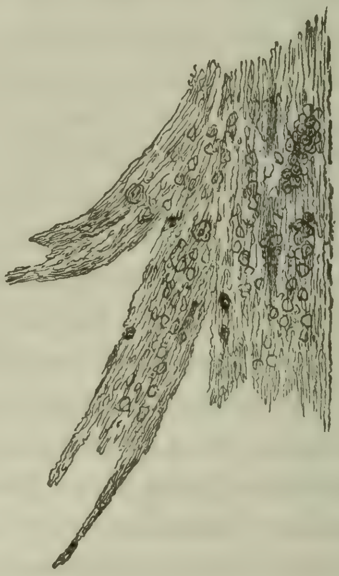


Fig. 10.



The drawings accompanying the report show the cast as it appeared to the naked eye; and its fibres, dotted with nuclei, as exhibited by the microscope.

JOHN H. PACKARD, } *Committee.*
WM. KELLER, }

DR. PACKARD then presented a paper "On the Pyogenic or Suppurative Diathesis," the reading of which was deferred until the next meeting.

WEDNESDAY EVENING, Oct. 26th, 1859.

The President, **DR. STILLÉ**, in the Chair.

DR. PACKARD read the following paper:—

ON THE PYOGENIC OR SUPPURATIVE DIATHESIS.

The above term has been preferred to those which have from time to time been applied to the affection now to be discussed, as being least open to the charge of prejudging the matters at issue. The name by which it is most commonly designated, *pyæmia*, expresses a theory not universally received; and so also does that of *purulent absorption*, or *resorption of pus*, both of which have found advocates. All these titles are significant of the changes in opinion which have taken place in regard to the character of the disease. And we shall find that these changes have been due, not to the discovery of fresh facts, but to the different constructions placed upon observations entirely analogous to one another. For here, as in all other arguments upon matters not within the limits of mere abstract truth, the great point is to arrive at the exact relations of cause and effect. Owing, however, to the complicated conditions to be considered, this inquiry is peculiarly difficult in physiology, and still more so in pathology.

In order to study to the best advantage the subject now before us, we shall in the first place survey the facts at command, and then the views and theories hitherto based upon them; lastly, we shall seek to define the conclusions derivable from this examination.

The essential pathological condition to be investigated is, the occurrence of suppurative inflammation, generally at several points, in some organ or organs distant from the seat of a local inflammatory disorder; the former phenomenon being generally observed in one or more of the viscera, and without any apparent local cause, while the latter is apt to subside more or less completely, as if by a shifting or metastasis of the inflammation to a new locality.

Thus after an amputation, the discharge of pus from the stump is very apt to cease if this condition is set up; if it occurs in a puerperal woman, the lochial flow is diminished or altogether suspended. But such is not always the case; sometimes the suppuration still continues at its original seat, or is changed only in quality. However this may be, the pus deposited secondarily is apt to be quite healthy in its character; its formation is very rapid.

Phlebitis is a very common, if not an invariable element of the disorder;

it commences at the part primarily affected, and extends to a greater or less distance along the vein, usually, however, throughout its whole length. It manifests itself in the same way as when idiopathic.

Now the secondary inflammations of the viscera may stop short of suppuration, simply because death takes place at too early a period for this stage of the local process. But they inevitably terminate in it, and not in resolution, if life lasts long enough; the lymph effused is not plastic, but *pyogenic* in the true sense of that word. Another peculiarity consists in their circumscribed character; they do not tend, however near to one another, to inosculate. Each focus, like a boil on the skin, has its own centre from first to last. Of all the organs, the lungs are most commonly attacked in this way, and next perhaps the liver; the brain sometimes, but less frequently, and still more seldom the spleen. Cases are upon record in which abscesses were found in the kidneys, and one or two in which the heart was the seat of irregular purulent formations.

The general symptoms are those of irritation with debility. In some cases, there are no evidences of serious derangement of the system, until the chill which is apt to precede the febrile movement. But sometimes this symptom is only noticed after several days of depression of spirits, malaise, and gastric derangement; or even after signs of pulmonary or hepatic congestion have declared themselves decidedly. The chill may be of any grade and duration, and may or may not recur. The fever which ensues either has from its commencement, or takes on subsequently, the typhoid type; the pulse becomes excessively rapid, the face dusky, the abdomen meteoric; the teeth become covered with sordes, and the tongue dry and brown, or else smooth and red. Delirium is almost always, perhaps invariably present; it may be of the low and muttering kind, but sometimes there is wild excitement. Toward the last there is frequently vomiting of dark-brown matter, probably altered bile, which is ejected without much effort, often apparently without consciousness. Death seems to result from general exhaustion, much as in other cases of a typhoid type.

Two symptoms are sometimes observed in these cases, in a marked degree, without any condition being discoverable to account for them. At a very early stage of the disorder, even before the chill comes on, there may be acute pain, like that of rheumatism, about one or more of the joints; the wrist is often its seat. This pain may be premonitory of an abscess at the part, but is by no means invariably so. At a later period there may be an extremely marked jaundice, which is occasionally due to suppuration in the liver, but does not certainly indicate it.

The following notes of cases may serve to illustrate the sketch now given:—

CASE I.—*Purulent infection following a blow upon the toe; death on the eighth day. Autopsy.*

William Jones, aged 14, born in Philadelphia, was employed as errand-boy about a market-house. On Friday, June 11th, 1859, he struck the great toe of his left foot against a brick.

The skin was not broken, and he did not complain much until the following day, when the foot became intensely painful, red, and swollen. On the 13th he became delirious.

Leeches were freely applied to the foot, and a wash, composed probably of lead-water and laudanum.

On the 16th he was seen by my friend Dr. Dunton, to whom I am indebted for these notes. His left foot was of a livid-red color, hard, and much swollen, but cool. The limb above was hot, and there were patches of redness here and there in the course of the internal saphena vein; another patch of redness existed at the outer side of the right foot. He was delirious, with a hot skin, and a rapid and compressible pulse; his tongue was moist, but thickly coated; he had some cough, and frequent green liquid stools.

Lead-water and laudanum were applied locally, and he was ordered a mixture of Spts. Mindereri and Tr. Opii Camph., with a diet of milk and beef tea.

On the 17th, his left foot had assumed a dark-purplish color, as had also the spot on the right foot. A thick hard cord could be felt in the course of the internal saphena vein. He was much more delirious, and more prostrate; his diarrhœa was checked. He complained of pain in the left side when moved.

Additional stimulus was ordered, and Quiniæ Sulph. gr. j., every two hours.

He, however, sank steadily, and died very quietly at 10½ P.M. By the kindness of Dr. Dunton I assisted at the autopsy, seventeen hours after death. Body muscular and well developed; rigor mortis well pronounced. Both feet swollen and congested; the swelling extended up to the groin of the left side. Hypostatic congestion over nearly the whole of the posterior or under surface of the body and limbs.

On taking off the skull-cap, the dura mater was found somewhat adherent to its inner surface. Some bloody serum flowed out when the ventricles were laid open. The brain-substance was normally consistent, that of the left hemisphere somewhat congested.

Thorax.—Croupous lymph in both pleural cavities. The lungs presented, near their surfaces, foci of inflammation, of all sizes below that of a walnut; at the centres of a few of these suppuration seemed to be commencing. Heart healthy; normal clots in both cavities.

Abdomen.—Viscera and veins entirely normal.

The *left leg* was very carefully examined in reference to the state of the veins. It was œdematous, and the internal saphena vein and its tributaries were distended with puruloid matter, their coats thickened and reddened. Here and there a very small vein was found filled with a red blood-clot; but, as a general rule, the distending substance was a yellowish matter, varying in consistence from that of pus to that of an ordinary clot. At the central portion of the vein was a clot about fifteen inches in length, tapering gradually at either extremity, and apparently breaking down into pus. At the point of entrance of the saphena vein into the femoral, a firm clot blocked up the passage completely. The femoral vein was perfectly healthy. A small collateral vein to the saphena, arising from it about two inches below its termination, and emptying into it again just at the latter point, was perfectly healthy, containing a red clot extending its whole length.

Just at the metatarso-phalangeal articulation of the left great toe was an abscess, laying bare the bone, but apparently not entering the joint.

CASE II.—*Secondary abscesses following amputation; death on the twenty-third day. Autopsy.*

This patient was a very muscular negro man, aged about 30. His right thigh was amputated by Dr. Norris, at the Pennsylvania Hospital, on the 24th of December, 1856; the operation was rendered necessary by a gunshot fracture. A ligature was placed upon the vein.

After his death, the lungs were found full of small abscesses and foci of congestion; the heart very large, and the coronary veins distended; the liver very large, and universally congested; the spleen soft. On raising the pelvis, pus and blood flowed from the right iliac vein, apparently coming from both the femoral and the gluteal veins. During life, he had complained greatly of pain in the *left* shoulder-joint; but this was found to be perfectly healthy.

CASE III.—*Secondary abscesses following amputation; death on the twenty-seventh day. Autopsy.*

This patient was also a colored man, aged 35, whose feet had been frosted. His right leg was amputated January 21, 1857, by Dr. Peace, at the Pennsylvania Hospital. A great many ligatures were necessary, and one was applied to a vein.

After death, the lungs were found full of abscesses. The right femoral vein and its tributaries, except the saphena and the anterior tibial, were distended with pus. Although the skin and tissues were intensely yellow, the liver was perfectly healthy.

In this case, as well as in the last, the symptoms of purulent infection were manifested within twenty-four hours after the ligature came away from the vein, which was in this case found to be patulous; its condition in the other was not noted.

The left popliteal vein was also full of pus; but it must be remembered that the left foot was also frost-bitten. Circumstances prevented a very thorough examination being made.

CASE IV.—*Abscess of the Liver following amputation; death on the twenty-first day. Autopsy.*

Michael McGorry, aged 21, had his wrist so badly crushed and luxated as to require amputation, which was done by Dr. Neill, at the Pennsylvania Hospital, August 3, 1856. Symptoms of purulent infection declared themselves in a few days, and he died on the 24th, three weeks after the operation.

A post-mortem examination showed a purulent deposit in the liver while the lungs were entirely healthy. The brain was congested, and there was some serous effusion in the ventricles. One kidney was very large and pale.

Dr. Hall* reported to this Society, in October last, a case of purulent infection following upon amputation of the upper arm. At the autopsy, pus was found in the veins of the stump; sero-purulent liquid existed in considerable quantity in the pleuræ and pericardium; the lungs were studded with small abscesses; the spleen was of a bright-red color, and at its lower portion presented a mass of gangrene the size of an egg; liver healthy.

CASE V.—*Purulent infection* (?) *following amputation; death on the sixteenth day. Autopsy.*

George Stouffer, aged about 30, an American farmer, was admitted into the Pennsylvania Hospital, July 25th, 1855, suffering from chronic disease of the left knee. For this his thigh was amputated by Dr. Pancoast, on the 1st of September. On the fourth day the stump was attacked with erythema. This was checked in a day or two; but on the eighth day each forearm became the seat of similar inflammation. He now began to sink; he had several attacks of almost suffocating dyspnœa, from inability to throw off the mucus which collected constantly in his throat; and chemosis occurred to an extreme degree in both conjunctivæ. The stump shrank up very remarkably, and he died on the sixteenth day. He had had no marked chill at any time.

At the autopsy, tuberculous deposits were found in each lung, but no other visceral disease. On the back of each forearm, just above the wrist, was a subcutaneous abscess full of healthy pus.

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* North Am. Med.-Chir. Review, Jan., 1859, p. 96, or Proceedings of Path. Society of Philadelphia, p. 147 of the current volume.

Case VI.—*Purulent infection following amputation; death on the tenth day.*

Sarah Ann Bush, aged 45, was admitted into the Pennsylvania Hospital on January 7th, 1856, for compound comminuted fracture of both bones of the left leg, close to the ankle. She was in the habit, according to her statement, of taking f℥iss of laudanum daily.

Amputation was performed by Dr. Peace, the same evening. Of course, it was absolutely necessary to administer opium in large doses, on account of her previous habits.

No bad symptom occurred until the seventh day, when she complained of great pain in the right wrist. The next evening she had a chill, and on the next day (the ninth after the operation) she became jaundiced. Stimuli were now given freely.

On the 17th, (the tenth day after the operation,) I was called to her early in the morning; found her with an anxious countenance and a tympanitic abdomen; the jaundice was extreme. Ordered an enema of turpentine; the other stimuli to be continued. At ten o'clock I was again called, and found her dying; vomiting up immense quantities of bile and undigested food, which flowed both from the nose and mouth, without any straining or effort.

Her friends would not allow any post-mortem examination to be made.

The foregoing cases are presented as exemplifying the course of the disease of which we have now to study the pathology. They are not all so complete as they might, or, perhaps, should have been—but it is one design of this paper to call attention to the subject, and to induce the pathologists of this country to give it more consideration than it has hitherto obtained; and the least full of the above records is still not without value in regard to some special point.

It is well known that abscesses in various parts of the body are apt to follow certain affections, such, for instance, as enteric fever; these local sequelæ usually occur at the surface, and seem to be a result of some specific influence of the preceding disease upon the blood. Of the extent and importance to which they may attain, the following case will be illustrative:—

Case VII.—*Abscesses following enteric fever; recovery.*

Israel Braddock, aged about 35, a colored porter, came under my care in the latter part of September, 1858. His symptoms were at first such as might have indicated bilious-remittent, but in a few days they became clearly those of enteric fever. My friend Dr. Dunton attended him in consultation with me; he was for several days extremely ill, but at length showed signs of amendment.

During the seventh week of his disorder, he one day complained of pain in the region of the left scapula. Upon examination, a very distinct fluctuation was perceptible at the spot; and an incision gave exit to an enormous quantity of thin but healthy pus.

Soon after this, he was removed to the Pennsylvania Hospital, where he remained until spring; several other abscesses of large size formed about his thighs and in his back, and it was for a long time doubtful whether he could survive the drain thus established upon his system. He, however, eventually regained his full health and strength, and was discharged cured.

We sometimes see abscesses form, after injuries of the extremities, at more or less remote points. These may be due simply to the inflammation of a lymphatic gland in direct connection with the part affected, although even then it becomes a question *how* the sympathetic action is induced; or they may be, to all appearance, independent of any such anatomical relation. Thus I have seen an enormous formation of pus, so large that it could hardly be ascribed to glandular inflammation, in the groin of a man whose toe had been crushed between two wheels; there was no free suppuration at the seat of injury.

But there are cases in which suppuration occurs secondarily, after injuries which would seem inadequate to such a result; of these the following case affords an example:—

CASE VIII.—*Purulent deposits following a slight injury of the knee; hectic fever, and death.*

George Bradshaw, aged about 45, was brought to the Pennsylvania Hospital, January 4th, 1856, having the day before slipped on the ice and strained his right knee. He had spent the night at a house close by where the accident happened, having been unable to walk; but there was no evidence of any injury to the joint. The thigh was slightly swollen, and somewhat erythematous.

He was a very large, stout Englishman, and had lived heartily, although, according to his statement, not intemperately.

It became evident, a few days after his admission, that an abscess was forming at the outer side of the thigh. This was freely opened, and exit given to a large quantity of pus. After this, several other abscesses formed, and were opened at different points along the thigh; then one occurred behind the knee; and, lastly, openings had to be made on each side of the leg. The orifices remained patulous, shreds of dead areolar tissue came away, and the discharge was very profuse. His strength began to give way, in spite of stimuli and nourishment; hectic fever set in at about the 1st of March, and on the 4th of April he died.

No autopsy could be obtained; but there had not been, from first to last, the slightest indication of any other lesion than these abscesses in the intermuscular areolar tissue.

Let us now inquire into the opinions of authors upon the subject with the elucidation of which we are especially engaged at present. It would not be worth while to notice at length the speculations of those who wrote before the time of Harvey; but the following passage, from the introduction to the Second Book of Paré's Works, shows that that great surgeon had observed and reasoned upon these so-called metastatic abscesses:—

"Besides, also, which furthermore argues a great putrifaction of humors, many had Abscesses in parts opposite to their wounds, as in the left knee, when as the right shoulder was wounded; in the left arme, when as the right Leg was hurt. Which I remember befell the King of *Navarre*, the Duke of *Nevers*, the Lord *Rendan*, and divers others. For all men had nature so overcharged with abundance of vicious humors, that if it expelled not part thereof by impostumes to the habite of the body, it certainly otherwise disposed of it among the inner parts of the body; for, in dissecting dead bodies, wee observed that the Spleene, Liver, Lungs, and other Bowells were purulent, and hence it was that the patients, by reason of vapours sent from them to the heart, were troubled with continuall feavers."

Now, there are various ways in which the occurrence of secondary suppurations may be accounted for.

1. An explanation has been sought in the idea that when the head is injured by a blow, a fall, or a concussion of any kind, a like concussion is sustained by the liver or lungs, which may thus become inflamed, and suppurate. This view was defended chiefly, I believe, by Richerand; it is entirely set aside by the fact that in many cases no concussion whatever is sustained; as, for instance, when an amputation is the starting-point of the disorder.

2. The solidists, Desault, Bichat, and others, ascribed the phenomena in question to *sympathy;* a term which, although convenient, and sometimes even indispensable, is too vague to be of much value here.

3. The admixture of pus with the circulating blood, as a cause of metastatic abscesses, was I believe first mentioned by Boerhaave. His idea was that the pus became changed in quality by confinement, and that it eroded the extremities of the veins and lymphatics, so as to gain access to their interior. This idea of *pyæmia* has always obtained more or less favor among pathologists, but its acceptance does not close the discussion of the subject, since the greatest difference of opinion may still exist both as to the source and the mode of action of the pus. It is with these questions that we have now to deal.

But the very first inquiry to be made is, "What effect has pus upon blood when mixed with it?" To obtain an answer to this it is unnecessary to go beyond the experiments of Sédillot, who repeatedly injected large quantities of pus into the veins of dogs, without any marked effect; for if pus had the coagulating agency ascribed to it by some, or the absolutely poisonous action ascribed to it by others, the results must have been by no means negative. It is well known, also, that many writers maintain the possibility of the removal of even large deposits of pus by absorption; although it is difficult to perceive how any positive evidence of such an occurrence can be obtained. Very few surgeons, probably, will agree with Cruveilhier, when he goes so far as to say:—

"The absorption of pus, like that of all secreted liquids, is so much a part of nature's plan that I do not believe there is a single instance of the termination of inflammation without it."

On physiological grounds, however, the idea of any true absorption of pus may be rejected. Absorption is the entrance of any substance in the liquid form through a membrane, without any solution of continuity in the latter. Now, as Sédillot remarks, pus without corpuscles is not pus at all, and it is physically impossible for a pus-corpuscle to pass through the sound wall of a vein or of a lymphatic; while the experiments of this author have shown that the liquor puris is destitute of any injurious effect when introduced into the blood.

Pus, however, like all other animal matters, is subject to decomposition; and authors have asserted that its injurious effects are due to its putrescent state when taken into the blood. Two facts have a certain amount of weight against this idea; in the first place, metastatic abscesses do not always follow the injection of other putrid matters into the veins of animals, although typhoid symptoms and death are induced; in the second place, all the phenomena of pyæmia may occur in a case where the primary suppuration retains its laudable character. Hence it is necessary to seek the rationale of purulent infection elsewhere than in the mere admixture of pus with blood, or in the putrid condition of the former liquid.

A mechanical theory which has been advocated by some high authorities, is embodied in the word *metastasis; metastatic* abscesses being supposed to be caused by a transference of pus-corpuscles mixed with the blood to an interior organ, where they act as obstructions in the capillaries. Cruveilhier, having abandoned his original idea of the tubercular character of these secondary deposits, adopted the one just mentioned, and became, perhaps, its chief exponent. He introduced mercury in substance into the femur of a dog; some time afterwards he found it in the animal's lungs, each globule of mercury forming the centre of a small abscess. When injected into the mesenteric vein, a like effect was produced in the liver. Hence he inferred that pus was similarly disposed of, and defended the following proposition :—

"Any foreign substance introduced bodily into the venous system, when its elimination by the emunctories is impossible, determines visceral abscesses exactly similar to such as supervene upon wounds and surgical operations, and these abscesses are the result of capillary phlebitis of those viscera."

The same view was defended by Mr. Simon, of London, as late as 1850. But it is entirely set aside by some considerations, the chief of which are, that it does not account for secondary abscesses in the areolar tissue, or in joints; that an organic cell would not, by lodging in a capillary, cause such an extensive interruption of the collateral circulation, whatever might occur if a foreign body were to lodge in like manner; and that such a theory leaves unexplained the rapidity, gravity, and peculiarity of the general symptoms.

Looking, however, at the clinical aspects of the subject, what evidence is there of the introduction of pus into the circulating blood in these cases? Here we must inquire whether pus can be detected, either by the naked eye or with the microscope, in the blood; for if so a great step may be gained. In the second of the cases already detailed, blood mixed with pus was seen to flow from the iliac vein. Piorry asserts that pus may even be detected in the blood drawn from pyæmic patients in venesection. But in the case just alluded to, the mixture of the two liquids was probably simply mechanical, and caused at the moment; Legallois, Dance, Sédillot, and others affirm that under other circumstances they could not be distinguished from one another.

Nor can we attain to any greater certainty by microscopic examination. Lebert's opinion, that there exists a visible difference between the pus-corpuscle and the colorless corpuscle of the blood, is entirely opposed to that of Virchow, Donné, and I believe of most other authorities on the subject. That the two cells are identical is by no means assumed, but only that they cannot be distinguished from one another with any certainty by their visible properties.

But admitting the *possibility* of the entrance of pus into the blood, does it *probably* take place in these cases?

To obtain an answer to this question we must first ascertain the source from which the pus might be derived. The idea of a simple transference the pus from the part primarily affected has already been set aside, as well as that of a true absorption of it; but may not a small portion be taken up by an open vein, by what some writers have called a process of aspiration? Some cases would seem to favor this latter supposition, which is, however, entirely overthrown by a single instance related by Bennett, in which the primary disorder was acute articular rheumatism.

Breschet, in 1817, first advanced the idea that a suppurative inflammation of the veins might furnish the pus by which the mass of the circulating blood was contaminated; and the convenience of this theory has recommended it in the eyes of many. Cruveilhier, indeed, goes so far as to say "*La phlébite domine toute la pathologie.*" Tessier, on the contrary, says that the word phlebitis has been a veritable nursery of error; affirming that whenever a vein is inflamed and suppurates, its communication with the rest of the circulatory apparatus is cut off, either by adhesive inflammation at its cardiac extremity, or by a plug of coagulated blood at the same point. Of the truth of this statement, the first of the cases I have detailed affords evidence; it is only one of a great many which are upon record. Moreover, in Bennett's case, before alluded to, all the symptoms of the so-called pyæmia occurred, but the veins were found, at the post-mortem examination, to be quite healthy. Bérard speaks of analogous cases. Tessier affirms positively that phlebitis is present in only five or six out of every ten cases of purulent infection, and argues strongly against the possibility of any relation of cause and effect between the two morbid conditions. In this opinion he is supported by Velpeau.

Phlebitis, on the other hand, does not by any means invariably cause metastatic abscesses. Duplay gives a series of eight cases in which the umbilical vein was inflamed, in children from two to twelve days old; peritonitis and icterus were constant symptoms, but there were no visceral abscesses, which he says do not ever occur in this form of disorder. In more advanced life, cases are not unfrequently met with in which the veins are inflamed, but no purulent infection ensues.

From the foregoing review of the opinions which have been advanced concerning the disorder in question, we see that neither transference nor absorption of pus can be accepted as the primary morbid phenomenon; and that phlebitis, although apparently offering a more substantial basis for theory, does not really stand the test of rigid examination. Authors have, therefore, been obliged to allege some additional cause for the symptoms observed, besides the mere admixture of pus with the blood. But this idea has so firmly seated itself in the minds of many, that they still allow it fundamental importance; thus Lebert assigns three periods to the disease: that of the formation of pus within the veins; that of the mixture of pus with the mass of the blood; and that of the pyogenic diathesis. Others again, having in view the analogy between the disorder in question and those caused by certain animal contagions—the plague, glanders, etc., speak of the blood as *poisoned;* but they still either express or imply the idea that it is the pus which constitutes the poison.

From what has been said, I think it will appear that there are defects in all the theories and hypotheses as yet put forth, in explanation of the occurrence of multiple abscesses after local injuries and surgical operations. Peculiar difficulties exist in tracing the phenomena of the disorder under consideration, so that the temptation is very strong to accept the most convenient doctrine, perhaps without sufficiently rigid scrutiny. It is probably for this reason that so many writers have defended views which a calm and impartial examination shows to be untenable.

Where, then, are pathologists of the present day to stand in regard to this most important affection? I beg to offer some considerations which may tend to a solution of the problem, although it may well be doubted whether its entire comprehension is within the power of the human mind.

In the first place, it is useless to attempt the task of accounting for the localization of such morbid actions as are due to constitutional causes. Thus the variolous poison gives rise to multiple abscesses in the skin; we know that such is the case, but we cannot go back of this fact. Nor can any one explain the mode in which the disease is communicated, when there is no actual contact between the person affected with it and the person receiving it. And so, also, that more strictly contagious disease, the glanders, is transmitted probably in the form of a material poison; but how or why that poison gives rise to the peculiar symptoms of the disease, no one can tell. It may be by a self-propagating power possessed by the poison, or by a catalytic influence upon the blood at large.

Again, after that clearly specific disease, enteric or typhoid fever, it is well known that abscesses are apt to occur here and there, without any local cause being assignable for them.

The simpler and much more frequent instance of boils and carbuncles may be adduced, as showing the effect of some inappreciable agent, (called, for the sake of convenience, a condition of the system,) in giving rise to suppurations apparently quite arbitrary in their choice of position. Every one knows that these may occur in persons seemingly in perfect health; and yet a tonic and stimulating regimen will often act most beneficially in such cases, showing that there was in reality a lowered and not an exalted condition of the vital powers.

Hence the process of suppuration, which may so commonly be traced to a local cause, may also be set up under the influence of agents modifying the constitution of the individual affected; whether these agents be considered as producing their effects through the nervous system, or by a taint impressed upon the circulating blood, or by altering the vital forces in amount or direction. In some cases, as has been seen, the action of a poison must be acknowledged; in others there is a state of the system at large, with which the local phenomena are obviously in connection; in others again such a connection can be so clearly inferred as to admit of no reasonable doubt, although it cannot be demonstrated.

Now comparing these facts with those which have been brought forward with respect to secondary suppuration after surgical operations, injuries, or local inflammations, they may afford a clue to the real pathology of this affection. For here, as in the other cases mentioned—pustular skin diseases, abscesses after typhoid fever, boils, and carbuncles—there exists a constitutional state, to which the name of *purulent diathesis* has been applied. This name was first proposed, I believe, by Tessier; I would suggest the word *pyogenic* as more expressive of the idea intended.

The *purulent*, or *pyogenic diathesis*, then, I would consider as present wherever there is a marked tendency to suppurative inflammation; as is often seen in hospital residents, sailors on board ship, and others who are exposed to depressing influences. By the pathologists of the present day, inflammation is perhaps universally regarded as attended with an actual diminution of the vital powers of the part, and is known to occur more readily in persons whose health is impaired. Hence, a tendency to inflammation, and to its termination in suppuration, may be set up by the influence of any cause of such impairment; very often this agency operates for a length of time without exciting any suspicion of its existence.

An individual may be thus weakened, without losing the appearance of vigorous health. But under the additional depression incident upon an operation, or upon any serious disorder of the system, the diathesis may show itself by the development of a general typhoid state, cropping out here and there, also, in the shape of local suppurations. Such may be supposed to have been the order of things in Dr. Bennett's case, where the primary affection was acute articular rheumatism.

It may, however, be objected, that the diminution of the suppuration at the seat of injury or operation, or of the lochial discharge, when the parturient uterus is the starting-point, is opposed to the view stated. But this diminution does not always occur, and when it does, it may be accounted for by the transference of the inflammatory action to other points.

Again, it may be asked how the frequent existence of phlebitis, in these cases, is to be explained. That this is not the essence of the disorder, or even an invariable element of it, has already been argued. The inflammation of a circumscribed extent of any vein or veins may be looked upon, I think, as simply a coincidence, especially when the extreme readiness with which it takes place is borne in mind.

As to the experiments on animals, in which the phenomena of the affection we have been discussing were produced by the injection of putrid pus into the veins, they only show that this is one way in which the pyogenic diathesis may be set up. That it is not the only way, is shown by the many cases met with in which the pus of a stump or of a wound is perfectly healthy until the constitutional symptoms have declared themselves.

Lastly, it may be objected that the view I have advanced leaves some important points unexplained.

Thus it offers no account of the manner in which the suppurative action is localized, or of its limitation to certain circumscribed spots; and it substitutes a pathology which may seem vague and far-fetched, for one which is clear and easy of comprehension. But, as regards the first two points, this disease is only added to a very large list of those whose localization is altogether unaccountable, as well as the peculiarities of their phenomena. Who can pretend to explain why herpes zona never passes the median line of the body, or why lepra and psoriasis are so apt to attack the knees and elbows? Who can explain why vaccination causes a sore of a certain form, running a certain course? And as to the accusation of vagueness, it is set aside by the fact, that upon this theory the secondary suppurations which occur after injuries, operations, etc., are placed in the same category with those to which they are allied, instead of being left to stand by themselves, anomalies in pathology.

In view of the great frequency and fatality of secondary suppuration, it is surely surprising that the subject has attracted so little attention in this country. The idea which I have sought to defend—that such abscesses, occurring after injuries or operations, are due to a *pyogenic diathesis*, this being a state of system not without analogy under other circumstances—is, I think, a new one. If tenable, it may afford a sounder basis for prophylactic or curative measures than those which have preceded it; and in this way I hope it may be made practically useful.

A discussion then took place on the subject of pyæmia, in the course of which DR. WOODWARD remarked, that while he recognized the truth of what Dr. Packard had said with regard to the extreme difficulty of determining the existence of pus in blood as seen under the microscope—owing to the impossibility of discriminating between pus-corpuscles and the proper white corpuscles of the blood—still, in a case where these corpuscles are abnormally abundant, we can at least say that one of two conditions must be present: either the patient, from whom the blood has been drawn, is suffering under leukæmia, or there is pus mixed with the blood. To determine this the symptoms and history of the case must be taken into account, and can leave but little doubt as to the nature of the disorder. Dr. Woodward also instanced cases illustrative of the rapidity with which pus might form, and spoke of the readiness with which, under certain conditions, it might enter into the circulation.

DR. PACKARD replied, that while he was fully sensible of the truth of all the remarks Dr. Woodward had offered, he did not think that the presence or absence of pus in the veins was of much practical importance as regards the disease in question, since it had been clearly shown that pus, when injected into the veins, does not produce pyæmia

DR. HENRY HARTSHORNE observed, that although the secretion of pus in organs distant from the seat of injury might often be owing to purely diathesic influences, without any distinct connection existing between the secreting centres, as suggested by Dr. Packard, still there were cases—and he instanced two as having fallen under his own observation—in which the neighboring lymphatics had become red and hard, first at the seat of injury, and in which this induration and redness had rapidly traveled along the course of the lymphatic vessels to a distant gland, which had suppurated. Such cases, he thought, must at least be allowed to be owing to continuous inflammation, if not to the direct conveyance of the pus from one suppurating centre to the other by means of the lymphatic vessel.

WEDNESDAY EVENING, Nov. 9th, 1859.

The President, DR. STILLÉ, in the Chair.

Morbid Growths occupying the Ventricles of the Larynx; Death from Suffocation.—**DR. GROSS** exhibited a larynx, in the ventricles of which were granulations. The specimen had been sent to him by Dr. H. W. Ducachet, with the following description:—

"The subject to whom the larynx formerly belonged was a mulatto man, of large frame, Felix by name, and aged about thirty-five at the time of his death. He was a coachman, living in the town of Arroyo, Porto Rico. I first saw him on the 25th of September, 1851, and his answers to the several questions I then put to him, though imperfect, will give a tolerable idea of his history before that time.

"About six years previous, while waiting for his master and family at a ball, he fell asleep on the box; it commenced to rain, and he was drenched to the skin, and contracted a severe cold, which confined him for some days to the house but not to the bed. He described his symptoms to me at that time as only those of a severe cold, with, however, a great deal of pain on swallowing. No physician was called to him then, his master not thinking him sick enough for it. He recovered, and resumed his duties at the end of a week; but from that time was never able to speak above a whisper. There was no cough when I first saw him, or afterwards, and his master assured me that the man never had had any. At the end of some months, the inability to speak loudly still continuing, medical aid was called in, but everything was tried without avail.

"When he presented himself to me he was apparently in perfect health, with a good appetite, no cough, and no pain; there was a slight hoarseness, and occasionally an 'uncomfortable sensation in the throat, which caused a desire to swallow.' I examined him thoroughly, but could discover nothing in his lungs indicative of disease; yet detected, on his taking a long breath, a hissing sound on expiration, which conveyed to my mind the impression of the existence of a stricture in the larynx, the exact position of which I was unable to determine satisfactorily to myself. I tried cauterizations internally with the nitrate of silver, and counter-irritation externally, besides many other remedies, too numerous to mention; but all without producing any amelioration of his symptoms, and finally abandoned the case, convinced in my own mind of the exceeding obscurity of the disorder.

"Once afterwards, in 1853, he applied to me, complaining, as he described it, of 'pain in his throat.' I ordered him a bran and mustard poultice, on going to bed, and heard no more of him until the 12th of December, 1854, when I was called to him about four o'clock in the morning. I found him dying; he expired about half an hour after I reached the house. His wife told me that he had had a slight cold for several days, and had gone to bed early, with great difficulty of breathing. She gave him a foot-bath, and applied the poultice of bran and mustard to his throat, which, as she said, had given him relief during former similar attacks; but, falling asleep herself, she knew nothing of his condition until about half-past three o'clock, when she was awakened by his struggles.

"The autopsy showed his lungs to be in a perfectly healthy condition; so were all the abdominal viscera. The larynx was filled with a thick, ropy mucus, which had so wound itself around the membranous band which completely filled up the tube, as to cause the patient to die asphyxiated.

"I will add to the description given, that words could be heard tolerably well at a distance of not over three feet from him. There was not, at any time after I first saw him until his death, any perceptible increase or diminution in the strength of his voice; it was, in every sense of the word, a whisper."

Dr. Gross looked upon this as a most remarkable case. The morbid growth he believed to be coagulable lymph, the result of inflammation, and not a true polypus.

Dr. Stillé thought the fact of the case having originated in cold pointed more toward a plastic exudation than to a polypoid growth.

Dr. Edward Hartshorne stated, that in a case of laryngeal polypus which had come under his observation at the hospital, not only were the symptoms entirely different during life, but the post-mortem appearances were dissimilar. In the case to which he alluded the man had breathed for several years through a very small orifice, and had finally died suddenly from suffocation, with exactly such symptoms as attend a case of membranous croup. After death the larynx was found almost entirely closed, the orifice being scarcely large enough to admit a small probe.

Miliary Tubercle in the Lung; Tubercle of the Liver; Psoas Abscess; in a man seventy-six years of age.—DR. KELLER, in exhibiting these specimens, said :—

Mr. Ertel, seventy-six years of age, emigrated about fifteen years ago from Germany, and has since that time been employed in one of the great chemical factories in this city, where he was occupied with the manufacture of different chemical preparations. He had consulted me several times during past years for various ailments, but on the twenty-third of June of this year, for the first time, for a cold abscess of the size of the fist, extending from the fourth to the sixth rib, on the right side, near to the sternal edge. I directed him to paint it with tincture of iodine, which he did for a short time; but not thinking that any treatment could relieve such an old and debilitated person, I soon lost sight of him. I was again called to see him on the sixteenth of October, when I found him in bed, very weak, and scarcely able to recognize me. His hands and feet were œdematous, his pulse at the wrist not perceptible. This condition had not changed on the next day. On the nineteenth day the œdema had disappeared; the pulse could be felt, but it was very feeble and irregular; the respiration was more difficult. He died during the following night. The post-mortem was performed on the twenty-second, by Dr. Packard, whose report I give :—

Autopsy, October 22.—The abscess being laid open, was found to contain several ounces of pus, and a good deal of semi-solid, cheesy matter, forming a sort of inclosure for it. The fourth rib was thickened about three inches on its sternal end; it was eroded, and could be felt at the bottom of the cavity. The sternum, with part of the aorta, was similarly affected, and fragile, like the denuded part of the rib.

Opposite this point, the lung was strongly adherent to the parietes of the chest, by means of bands of organized lymph. Toward its base, on its posterior surface, this lung was attached to the wall by a very thick and dense mass of the same character.

The right lung was congested with blood, and had miliary tubercles diffused everywhere through its substance; but it still swam in water. The other lung was adherent to the chest-walls by most of its surface; it was studded with miliary tubercles, and pieces of it sank instantly when dropped into water.

The two layers of pericardium were everywhere adherent, except on the under surface of the heart. The heart's substance was increased in bulk, but softened, and was found, under the microscope, to be in a state of fatty degeneration. On the left side both sets of valves were thickened, and ossific deposit had occurred in the subserous tissue forming the base of the valves. The coronary arteries were ossified to some extent.

The liver was enlarged, fatty, and anæmic, with points of tuberculous deposit here and there in its substance; one mass of this nature was of about the size of a chestnut, and seated at the under surface. Spleen soft and deep colored. Kidneys somewhat pale and flabby; on the surface of one of them was a whitish deposit, about as large as a grain of wheat, presenting no very marked microscopic characters.

The mesenteric glands were very much enlarged, hard, and converted into a white, cheesy material, exactly like that mentioned as found at the under surface of the liver.

In the right axilla three or four glands were enlarged, one to about the size of a large chestnut, the others in less degrees. These all exhibited the same change into a cheese-like material.

All these deposits, being placed under the microscope, were found to consist of small, irregularly shaped, but generally ovoidal cells, containing bright, oil-like particles, and many of them also a nucleus of comparatively large size, with one or two nucleoli.

In the psoas muscle, on the left side, there was an accurately limited abscess, laying bare a small portion of the fifth lumbar vertebra. The psoas muscle was diminished in volume, somewhat greenish in color, and of less than normal consistence. Under the microscope, it seemed to be breaking down, its elements were less distinct than usual, and appeared to be, as it were, dissolved.

Bright's Disease; Waxy Kidney.—DR. HARLAN exhibited, for Dr. Reed, a specimen of this disease, and read an account of the case:—

Frederic Smith, tailor, aged twenty, native of Germany, was admitted into the Pennsylvania Hospital, October 20th, 1859. He stated that, when about ten years old, he had had an attack of general dropsy, which yielded to rest and treatment in about three weeks, and that after his arrival in this country he had an attack which lasted about the same time, but was not followed by dropsy; his health had been good up to the commencement of the month. Since that time he has had dropsy, which he cannot satisfactorily account for; he believes it to be owing to a profuse perspiration which was suddenly checked. When examined on admission, he presented the waxy-white appearance peculiar to albuminuria. There was some effusion into the cavity of peritoneum; the urine was scanty and highly albuminous; the pulse small but regular; the tongue pale; the bowels costive and not easily operated upon; the appetite good. He was ordered to take diuretics; a diet nutritious but not stimulating, and hot vapor baths every other night.

On the seventh, Dr. Meigs showed the patient to the class. He notes: "Patient has passed about three pints of urine in the twenty-four hours. It is amber colored, specific gravity 1006 to 1008, and highly albuminous. The dropsy extends up around the loins and to the walls of the abdomen; the effusion into the abdomen is slight; there is also slight effusion into the right pleural sac. The dullness over the heart extends about two inches above the nipple, along the edge of sternum; the apex beat is feeble yet distinct. It contains small, waxy-looking casts, epithelial cells in abundance, and some blood. Heart probably pushed up by the diaphragm, as the abdomen is very considerably distended by flatus and fæcal accumulation; if any ascites, it is very moderate."

On the twenty-sixth of September, when I examined the case, the general condition of the patient had not varied much from the description given.

On the third of October, elaterium (one-eighth gr.) was ordered. This produced nausea and vomiting. As it had the desired effect upon the bowels (four to six stools in twenty-four hours) it was persevered in. The dose was repeated on the fifth, fifteenth, and eighteenth. About the fourth of October a peculiar venous congestion or stagnation was noticed in the epigastric vessels, and, to a slight extent, upon the thighs. This condition gradually increased until about ten days before death, when, simultaneously with the decrease of the œdema, the vessels were relieved.

About the seventeenth, the patient was suddenly attacked at night with torturing pains and swellings in the abdomen and thighs, which gradually extended down the limbs to the feet. It was impossible to touch his body without producing pain; and the weight of the bedclothes had to be supported by hoops. This condition, which seemed to resemble both phlebitis and inflammation of the lymphatics, was treated with Dover's powders, liniments, and bandages, and passed off in five or six days.

Following closely upon this was a decided loss of appetite. The bitart. potas. and infus. juniperi were put aside, and acetate of potas. and comp. spts. juniperi ordered instead. This was about the twenty-fourth of October. The œdematous condition daily diminished, and the abdomen, by the thirtieth of October, had assumed its natural dimensions. The swelling of the limbs was also partly lessened. The patient now refused solid food, and took milk-punch and soups; tonics did no good. On the thirtieth he was decidedly weaker, and brandy and water was ordered; after this he gradually became more and more prostrated, and died comatose on the thirtieth of November. The last six days of his life he complained of very severe pains in his bowels, and was kept but partially quiet by full doses of opium. Ten days before death a diarrhœa set in which proved intractable, and doubtlessly hastened the fatal result

Notes of post-mortem twelve hours after death. Brain not examined. Lungs have small tubercular deposits scattered through both; at top of left lung, posteriorly, is a small abscess containing a quantity of tubercular matter. The liver and spleen are normal or nearly so. Stomach and duodenum healthy. Pancreas has what seem to be tubercular matter in it; studding the internal surface of the ileum are a number of ulcerations, tubercular in character. Some of the mesenteric glands are enlarged, and, in some four or five, a hard deposit, like cast-off lime, is found. The kidneys are large and waxy. A subsequent examination showed that there was no abnormal amount of fatty degeneration, and the whole case will perhaps most properly be regarded as the "waxy degeneration" of Dr. Todd. The amount of urine passed did not vary much through the treatment of case—from five to eight pints in the twenty-four hours.

In this case there certainly was not enough of tubercular disease to cause death. Patient died comatose, and for some hours before death his symptoms showed plainly the presence of urea in the blood. Perhaps his was one of those cases mentioned by Dr. Todd, where, although the normal amount of urine was secreted, yet the proper elimination of its elements did not take place.

During the whole progress of the disorder there seemed to be but little aggravation of general symptoms. Cough and bronchitis same throughout; pulse varied but slightly, 86 to 106; no headache; appetite generally good; amount and character of urine passed much the same; bowels operated on by medicines until the last two weeks of life. The post-mortem showed the lymphatic glands, which lay along the course of the iliac veins, very much enlarged and hardened. The pressure which these glands exert on these vessels may, perhaps, account for the great venous congestion of the external vessels of the abdomen and thighs. Certainly the amount of fluid in the peritoneum could not account for it. Though this explanation does not seem very plausible, yet it is an effort to account for one of the most singular and interesting complications of the case.

Fracture of the Anatomical Neck of the Humerus.—Exhibited by DR. LENOX HODGE. A few days ago, a muscular German, forty-three years of age, fell, about twenty-five feet, from a tree. He died the same afternoon, from injuries to his body and pelvis. The humerus gave every indication of being fractured through its anatomical neck. So it proved. The fracture extended from the tubercles above downward and inward along the neck, and below passed forward through the capsular ligament into the head. This was the principal line of fracture; at various points of its course several small fragments were split off.

Ossific Deposit in the Pleura.—DR. HODGE continued. Upon opening the thorax of the German, whose humerus has just been exhibited, we found extensive pleuritic adhesions, especially on the left side. We removed the lungs, and on the posterior surface of the left, between the pulmonary and costal pleuræ, we saw what appeared to be a portion of a rib. But, upon examination, we could detect no rib to be absent, or broken, or denuded of its periosteum. The deposit is of the consistence and appearance of bone, lies along the fissure between the lobes of the left lung, and is four and a quarter inches long, by one-half inch to three-quarter inch broad, and about one-eighth of an inch thick. It is closely adherent to both layers of the pleura, and, at its anterior extremity, seems to project through the costal pleura, at least into the subserous areolar tissue. A small nodule of a similar deposit was found among the adhesions at the summit of the same lung.

Feeling the importance of ascertaining positively the nature of this deposit, I respectfully submit it to the action of the Society. Bone is often said to be deposited in the pleura after inflammations; but those cases in which a microscopical examination has been made, the deposits, though called ossific, osseous, or osteid,* have generally and perhaps always proved not to be true bone.

The specimen was referred, for minute examination, to a committee.

Tumor of Breast.—DR. LENOX HODGE next exhibited a mammary tumor. About three years ago, an abscess followed a contusion of the left breast of a married woman, twenty-seven years of age, and the mother of several children. The abscess opened, discharged, and the part returned, apparently, to a healthy state. One year afterwards, without any known cause, an abscess formed in the axilla of the same side. This also went through its stages and the parts returned to their normal condition. Last spring the patient gave birth to a child, which lived six days. She had plenty of milk; and, after the death of the child, her breasts dried up, without any untoward symptom. Then, however, she noticed, for the first time, a small tumor on her left breast, near the nipple, and felt shooting pains through it, especially during changes in the weather. There was no increase of size till the middle of September, when her husband died. Since then, it has increased rapidly, and become much more painful, so that, during the last two weeks, she has had almost constant pains, by night and by day. The tumor was removed this morning by Dr. Norris. It is large and hard, and with a marked retraction of the nipple. The skin is thickened, especially in points, forming hard nodules. Except, perhaps, its size, it presents the characteristics of scirrhus of the breast. A small tumor, of apparently the same nature, was found above this, and nearer the axilla. It also was removed. The axilla itself was unaffected.

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* Transactions of the Pathological Society of London; "Ossification of Pleura, by Dr. Bristowe, vol. ii. p. 35; "Ossific Mass deposited in the Pleura," by Dr. Hyde Salter, vol. v. p. 35; "Osteoid of the Femur, with Osteoid Growth in the Lungs, Omentum, and Diaphragm," by Dr. Hillier, M.B., vol. vi., 317. The Ostephytes, reported by Dr. J. Varise, (Archives Générales de Médecine, tome xxi. 4th S., pp. 320 and 448,) were not deposited in the pleura, but on the ribs by the periosteum.

Dr. Packard stated that he had made a microscopical examination of a minute portion of the tumor, and that he had found it to consist of gland-tissue, tubes lined with epithelium, and imbedded in a fibrous stroma. He was desirous of studying it more thoroughly.

Dr. Woodward thought the tumor resembled the lardaceous cancer described by Velpeau.

Bi-Monthly Abstracts;

OR, BI-MONTHLY NOVELTIES IN MEDICAL, PATHOLOGICAL, SURGICAL, OBSTETRICAL, PHYSIOLOGICAL, AND CHEMICAL SCIENCE.

SURGERY.

BY S. W. GROSS, M.D.,

LECTURER ON SURGICAL ANATOMY AND OPERATIVE SURGERY, PHILADELPHIA.

I.—1. *On Recto-Vesical Lithotomy, with the Report of a Case in which this Method was successfully employed.* By LOUIS BAUER, M.D., M.R.C.S., England, etc. (American Medical Gazette, September, 1859.)

2. *On a Case of Large Vesical Calculus, successfully removed by the Recto-Vesical Section.* By GEORGE SOUTHAM, Esq., Surgeon to the Manchester Royal Infirmary. (Transactions of the Royal Medical and Chirurgical Society. Lancet, September 3, 1859.)

DR. BAUER adopted, in his case, the recto-vesical operation of lithotomy for the removal of a calculus weighing an ounce and a half, and recommends it as being the most rational and preferable plan in all cases, excepting young children. Mr. Southam, on the other hand, instituted the procedure for the extraction of a calculus weighing nearly five ounces, but advocates the method only in those patients whose general health is much impaired, and in whom the bladder is indurated and contracted, and contains a stone of large dimensions.

With the latter operator, the great majority of surgeons agree that the lateral operation is the most feasible and attended with less difficulties than any other. Dr. Bauer is not wholly unsupported in his opinion; but very few surgeons of the present day will be found to think, with him, that recto-vesical lithotomy possesses advantages over all other methods.

The patient in the first case was twenty-six years of age, and in perfectly good health. A Sims's speculum was introduced into the rectum, which, together with the bladder, was opened behind the prostate gland. Some difficulty was experienced in extracting the calculus, and the wound was accurately approximated by five silver sutures. On the eighth day the stitches were removed, the wound was found to be thoroughly united, and the patient was dismissed.

The case of Mr. Southam occurred in a patient twenty-one years of age, who had been suffering with symptoms of vesical calculus for sixteen years. His general health was very much impaired, and the urine was loaded with pus and albumen. On an improvement in his condition, the operation was performed by dividing the sphincter and lower portion of the anus, and opening the urethra anterior to the prostate, the incision being afterwards prolonged through the gland and neck of the bladder, on account of the large size of the stone, which gave rise to some difficulty in its extraction. The patient made an excellent recovery, not, however, without the occurrence of a fistule in the membranous portion of the urethra, about a quarter of an inch long, which was closed by the application of nitrate of silver and the electric cautery.

Mr. Southam proposes to call his operation the recto-urethral.

II.—*Maisonneuve's Operation for the Removal of Naso-pharyngeal Fibrous Polyps.* (Gazette Hebdom., Nos. 39, 40, pp. 609 and 625, September and October, 1859.)

The French medical world has lately been occupied in discussing an operation, proposed by M. Maisonneuve, for the extirpation of fibrous polyps involving the posterior nares and pharynx. The difficulties with which the surgeon has to contend, in reaching and completely removing the pedicle of these tumors, are well known to all operators; and, with a view to their obviation, the author advises the division of the soft palate in the median line, leaving intact its free border. Through this opening, which he denominates the *palatine button-hole*, he brings the tumor, and then, placing as far back on its pedicle as possible a loop of wire, he removes it by *écrasement*, afterwards closing the opening by points of suture or leaving it patent for further operations, if deemed necessary.

The principle on which this operation is founded is not a new one. In 1717, Manne, of Avignon, advocated the removal of fibrous tumors of the pharynx by dividing the soft palate in the median line, but he also included its free border in the incision. Nélaton also divided the soft palate, and with it a portion of the hard palate. Richard confined the incision to the hard palate, while Botrel proposed a modification of Nélaton's procedure by not including the free border of the soft palate. Dieffenbach seems to have been the first to propose leaving the free border intact; but he doubted its success, and reports only one favorable issue from this operation.

M. Maisonneuve has, therefore, merely revived an old operation, which had fallen into disuse, but which may prove of signal service, since the difficulty in this class of cases is not only in reaching the tumor, but in preventing its return, which may be effected by the judicious use of caustic applications. We thus infer that if the procedure be practiced, the wound should not be closed immediately, but that surgical interference be maintained until we are certain that the pedicle of the tumor be destroyed, a result absolutely necessary to a radical cure. In case of hemorrhage, the incision may be performed on one day and the tumor be removed the next; and it is stated that such wounds unite very readily.

III.—*Ligature of the Common Iliac Artery for Aneurism; use of Silver Ligature; Death on the twenty-sixth day, from exhaustion by Dysentery.* By WARREN STONE, M.D., Professor of Surgery in the University of Louisiana. (New Orleans Medical and Surgical Journal, p. 732, September, 1859.)

The subject of this operation was an Irishman, thirty-six years of age, who was admitted into the Charity Hospital, on account of a well-marked aneurism of the left external iliac and upper portion of the femoral arteries, its extent being two inches below and two inches and a half above the crural arch. The patient's general health was in a bad condition, the stomach being disordered, and the bowels much deranged, the discharges being of a dysenteric nature. Rest and appropriate treatment were resorted to, to improve his health, which were continued for six weeks, with the desired effect, and as the tumor suddenly enlarged, and inflammatory action was set up, the operation of ligating the left common iliac was resorted to.

The incision extended in the direction of the semilunar line from the upper border of the tumor to the cartilages of the ribs, and the tissues were separated in the usual manner. Some difficulty was experienced in detaching the peritoneum from the tumor to which it had become adherent, and in executing this step of the operation, this membrane was wounded to a slight extent. A silver wire was passed around the vessel and tied with only sufficient firmness to stop the current of blood. Its ends were cut off close to the knot, and the large wound was approximated by several points of the twisted suture.

The patient did well for several days; the circulation was readily re-established, and there was no tendency to gangrene. The dysentery, however, became worse, and the patient died on the twenty-sixth day after the operation. Unfortunately, an autopsy was not procured.

Contrary to the opinion of the majority of pathologists and surgeons, Dr. Stone states that it is not necessary to divide the internal and middle coats of an artery, and that when a vessel is ligated, adhesive inflammation never takes place on its inner surface. In accordance with his belief, he applied the silver ligature, which he considers harmless by its presence, with a view of merely approximating the sides of the vessel and stopping the current of blood without strangulating and producing ulceration of its coats. His conclusions are not borne out by his statements, nor does he tell us what will become of the silver wire.

IV.—*Amputation at the Hip-joint.* By A. H. BUCHANAN, M.D., Professor of Surgical and Pathological Anatomy and Physiology in the Medical Department of the University of Nashville. (Pamphlet, pp. 8, 1859.)

Professor Buchanan reports a successful case of amputation at the hip, the first operation of the kind ever performed in Tennessee. The patient, a lad fourteen years of age, was seized in June, 1859, with pain in the thigh, and when seen by the author, in a few weeks from this date, the limb was found to be the seat of extensive suppuration, for which an opening was made about four inches above the external condyle, and nearly a quart of very fetid pus was discharged. The swelling being thus diminished, a large osseous tumor was discovered at the middle and upper third of the thigh-bone, caused by inflammation and suppuration of the medullary canal and expansion of the outer compact layer of the bone. In September, spontaneous fracture of the bone had taken place near its middle, and the patient was much emaciated. Hectic fever had supervened, the limb was about four times the size of the sound one, and the seat of intense pain attended with the daily discharge of about eight ounces of thin, offensive, ichorous pus. On the fourteenth of September, on account of the great drain upon the system, the operation was performed.

A mixture of chloroform and ether having been administered, the limb was amputated by the antero-posterior flap method. When the anterior flap was made, there was a discharge of a large quantity of very offensive pus mixed with venous blood. Only six or eight ounces of blood were lost, and eleven arteries were ligated. Reaction took place in about four hours, and as the wound was well glazed, the flaps were brought together by means of the interrupted suture and adhesive strips, a tent having been interposed between the flaps, to allow of free drainage. Under the use of nutritious food, brandy, and porter, the lad made a good recovery, the wound having nearly cicatrized on the twenty-ninth day. The entire shaft of the thigh-bone was necrosed and broken about its centre.

V.—*A Case of Inguino-femoral Aneurism cured by Pressure on the External Iliac.* By W. R. Gore, M.D., Surgeon to the City of Limerick Infirmary. (Dublin Medical Press, vol. xiii., No. 1078, p. 131.)

The interesting case of Dr. Gore adds more confirmatory proof as to the beneficial results of alternating digital and instrumental compression—a method which has succeeded in effecting a cure in every case to which it has been applied. The period required for obtaining the happy issue was thirty-five days and twenty-two and a half hours, which, although longer than is usually required, is not more tedious than the operation of ligating the extermal iliac, in which the external wound rarely perfectly cicatrizes in so short a time. This mode of treatment cannot be too much impressed upon the profession, and we trust to see it adopted in every case of aneurism.

The patient, an Irishman, twenty-four years old, was the subject of a large aneurismal tumor of the femoral artery, about an inch below Poupart's ligament, for which it was proposed to tie the external iliac, but symptoms of diabetes supervened, and it was abandoned for the safer method of compression. On the twenty-eighth of June, a bladder of ice was placed on the tumor, and digital compression was instituted upon the vessel as it passes under the crural arch. At the expiration of seventy-six hours the current of blood through the tumor was much lessened in strength, and the aneurism had become harder and diminished in size. The assistants becoming much fatigued, pressure by means of the finger was discontinued, and Carte's compressor was substituted. This alternated with digital compression for eight days, and was occasionally entirely given up on account of pain, the finger, however, producing less inconvenience than the instrument. The parts having become blistered and intolerant of pressure, the compressor was placed over the external iliac, but it was relieved by the finger, and occasionally by total rest. From the nineteenth of July the pressure was only made during the day, and was intermittent; on the fourteenth of August all pulsation had ceased.

A cure was thus effected in thirty-five days twenty-two hours and a half, by interrupted, intermittent digital and instrumental compression; and for one-half of this period the artery was not acted upon at all, and scarcely any for nine days before pulsation had ceased. The iliac and femoral above the sac, and the latter artery below this point, pulsated after the patient was dismissed.

VI. *Remarks upon a rare variety of Tumor of the Scrotal Coverings.* By M. A. VERUEUIL. (Gaz. Hebdom., No. 37, p. 581, September 16th, 1859.)

The author reports two cases of subcutaneous erectile venous tumors of the scrotum, increasing under the influence of warmth and much exercise, and diminishing by cold and rest. When extirpated, the growth is found to be composed of erectile venous tissue, of a dense structure, and even hard at certain points from plastic deposits, containing phlebolites, and a large number of cysts filled with serous or sero-sanguinolent fluid.

The conclusions of M. Verueuil are contained in the following summary:—

1. The scrotal veins, as those of other parts of the body, are liable to take on varicose enlargement.

2. These vessels are of three classes: one set supplying the testis, another ramifying in the subcutaneous cellular tissue, and the third belonging to the integuments.

3. The varicose condition may assume three distinct forms, referable to the three classes of veins.

4. Two of these forms are well known, constituting varicocele and cirsocele, which are observed separately or combined. They represent deep and superficial varix of the lower extremity, of which the former is by far the most frequent. The same may be said of varix of the scrotum.

5. The third form, which may be combined with either of the two preceding, is not sufficiently known; it is seated in the subcutaneous veins of the scrotum, and resembles erectile venous tumors situated in deeper parts.

6. They may be congenital, or appear during infancy, and may remain stationary for a number of years. Being indolent, of moderate size, and without any tendency to ulceration, they do not excite attention, and only require palliative treatment.

7. They increase the already known number of morbid conditions of the scrotum, and on this account merit special attention. In other respects they enter into the same general history of erectile tumors, which are often found at the period of birth.

8. On the approach of puberty these tumors show a great tendency to spontaneous inflammation. Their superficial position, doubtless, predisposes them to it, but the inflammation is benign, and readily yields to treatment. It, however, produces changes in the erectile tissue, rendering extirpation necessary, if an operation is decided upon.

9. This inflammation may be favorable if it attacks the whole tumor, by producing coagulation of the blood in all the vascular branches. On the other hand, it is equally as liable to produce injurious effects.

10. At the commencement, erectile, subcutaneous tumors of the scrotum may give rise to some difficulty in their diagnosis. The symptoms by which they can be recognized are—that they are seated in the scrotal coverings; that the cord and testis are not involved; the absence of pain; their slow progress; their soft consistence at the start; and the changes produced upon them by rest, cold, or

warm applications. The diagnosis will be more easy if the skin presents varicosities, as it will after a time.

11. The prognosis is more serious if, on account of the increasing size of the tumor, an operation becomes necessary, since some danger always attends surgical interference in varicose enlargements. It will be better to operate before the tumor has attained a large volume, and during manhood, a period very favorable to the success of all operations.

12. If the tumor be small it may be destroyed by cauterization, or by means of Breschet's forceps, with angular branches. Coagulating injections, or the seton, are not proper. When of large dimensions, extirpation will be the only resource.

VII.—*On the Treatment of Epithelial Cancers by the Application of the Actual Cautery.* By M. SÉDILLOT. (Revue de Thérapeutique Médico-Chirurgicale and Journal de Médecine de Bordeaux, October, 1859, p. 693.)

In the treatment of epithelioma, the rule, which is always observed, is to remove the whole of the morbid mass, together with a portion of the surrounding healthy tissues, in order to prevent a return, and this object may be effected by the use of the knife, the potential cautery, or by means of the Vienna, arsenical, or Canquoin's paste.

There are some cases which are very embarrassing to the surgeon, as it is difficult to stop the progress of the disease, and two dangers are thus encountered, either to abandon the patient to his fate or to expose him to great deformity, which is scarcely counterbalanced by the certainty of a cure. Cases of this description are those in which the cancroid affection threatens to involve the free border of the lids or attack the whole thickness of the walls of the nose, or when it approaches the commissure of the lips or the auditory canal.

It has long been known that fibrous tissue is not prone to be invaded by epithelial cancer, and M. Sédillot considers it philosophical to profit by this fact, and, by the application of the hot iron, produce a dense, fibrous tissue, with slight organization and no tendency to morbid changes. By this means to destroy the disease, and create a barrier to its extension with little danger of relapse.

Another motive for adopting this practice is, that prolonged suppuration is favorable to the elimination of cancerous elements, an opinion which the author has verified by the microscope, finding that portions of tissues, infiltrated with cancer at the time of the operation, did not present any trace of the disease after several weeks of suppuration. This was a favorite treatment of M. Boyer, who persisted in causing the wounds made in the extirpation of cancroid growths to suppurate for some time, with the effect of having but few returns.

M. Sédillot reports five cures by this procedure, of which the following case is a good example. A woman, seventy years of age, presented herself at the clinic with an epithelioma of the lower lip, of seven months duration, one and a third inches in breadth by one inch in length. The mucous membrane was scarcely ulcerated, but if the ordinary operation by a V-shaped incision had been performed, it would have been necessary to remove two-thirds of the lip. The most projecting portion of the tumor having been snipped off with the scissors, the hot iron was applied to it, and in four days more was again repeated. The cure was complete in fifteen days. and in two months after the operation a photograph of the patient was shown to the Academy of Sciences, from which it was evident that the middle portion of the lip was restored in a regular manner, its breadth and length being preserved, and the cicatrice being soft and unbroken.

The author believes the procedure to be very simple, not attended with much loss of substance, and more sure than the knife. As chloroform is always to be administered, the patient's fears are quieted, and he experiences no pain. Should an indurated spot appear in the cicatrice, denoting a tendency to a return of the disease, it must be treated in the same manner.

VIII.—*Ovariotomy in Ohio; being the Report of a Special Committee of the Ohio State Medical Society.* By J. W. HAMILTON, M.D., Special Committee on Surgery, Professor of Surgery in the Starling Medical College. (Ohio Medical and Surgical Journal, November, 1859, p. 91.)

This report embraces within its range fifty-one cases of ovariotomy performed in Ohio by surgeons of that and other States, and also cases operated upon by Ohio surgeons out of the State. It includes twenty-five hitherto unreported cases. From it we condense the following facts:—

1. The *age* of the patient is given in twenty-five instances, the average being thirty-four years, the extremes sixteen and fifty-six. The operation has been more successful in the younger than in the older, in the proportion of eight to five; that is, of twelve patients whose age averaged twenty-six and a half years eight were cured, while in the same number of the average age of forty-five and two-third years only five were cured.

2. *Tapping* does not appear to have compromised the chance of success, having been performed in nine cases from one to ten times. Subsequent extirpation resulted favorably in six of these.

3. *Adhesions* are specified in thirty-four cases; being slight or not existing at all in twelve, of which nine were cured. In twenty-three they were strong or extensive, and of these more than four-fifths were fatal. Absence of adhesions is, therefore, a favorable symptom.

4. The *length of the incision* is given in twenty-nine instances, in two of which the minor operation was performed. It ranged from six to twenty inches in thirty-seven cases.

5. *Separation of the ligatures* took place in eighteen cases in from fourteen to twenty-nine days, the average period being twenty-four days.

6. The *time of death* is specified in twenty-three instances. In two cases it occurred in one year; in one case in four and a half months; in three cases in from twenty to forty-five days; in five cases in from seven to seventeen days; in two cases in from five to six days; in six cases on the third day; in three cases within two days, and one patient died on the table.

7. The *cause of death* in fourteen cases is attributed in one to acute pneumonia; in two to gangrene of the sac; in one to congestion of the brain; in one to inanition; in one to shock; in one to exhaustion; in three to hemorrhage; and in four to peritonitis.

8. *Extirpation was impracticable* in thirteen instances. Of these seven died from the attempt within forty-five days; two lived one year; one was cured permanently; and in three the patient was rendered no better nor no worse.

9. *Extirpation was practicable* in thirty-seven cases, sixteen dying from the operation.

10. *Cures.*—In twenty-one cases recovery took place after the removal of the tumor, and, so far as has been ascertained, the patients are in good health, and there has been no return of the disease. In three the belly was opened, but on account of extensive adhesions the operation was abandoned. These cases recovered from the incision. *Thus we have twenty-four surviving, and twenty-seven perishing from the operation.* Of the former at least sixteen are now living and in good health.

11. The *size of the tumor* is specified in twenty-nine instances. The smallest two weighed five and seven pounds, the largest two one hundred and six and one hundred and thirty-six pounds. The average weight of all the tumors was thirty-four and two-third pounds. Further examination of these cases shows that extirpation of the larger tumors has been more favorable than that of the smaller, in the proportion of nearly three to one.

12. The *pathological characters* of forty-three tumors are specified. Thirty-two are cystic, the majority being compound; six are solid or fibrous; two omental; two uterine; and one a tubal fœtation.

Professor Hamilton concludes his interesting paper by discussing the propriety of receiving ovariotomy as an accredited operation, and concludes by saying that "the surgeon, ordinarily, has no right, till a less hazardous or more successful treatment is presented, to withhold the operation, when the diagnosis of cystic disease is clear, if, after a candid and full statement of its hazards, the patient is desirous to assume them." This remark is especially applicable to the proliferous cyst, on account of its rapid growth and its not admitting of cure by other means. Moreover, the author has shown that the compound cyst constitutes more than two-fifths of the forty-three specified tumors; the simple cyst amounting to only two-sevenths. Of the former eleven-sixteenths of the extirpations resulted in a cure; of the latter only one-third. Removal of the compound cyst is, therefore, a more successful procedure.

IX.—*New Operation for the Relief of the Pain in Acute Glaucoma.* By MR. HANCOCK. (London Lancet, October 29th, 1859, p. 435.)

Mr. Hancock, of the Royal Westminster Ophthalmic Hospital, has recently devised a new procedure for the relief of the pain of acute glaucoma, which consists in the introduction of a Beer's cataract knife at the junction of the sclerotic and cornea, and at the commencement of the lower semi-circumference of the latter. The blade of the instrument is inclined downward, and the point is inserted from the outer side of the eye, at the spot specified, passing inward and backward, traversing the coats of the cornea, and finally pushed toward the interior of the globe, dividing a portion of the ciliary ligament. It differs from Von Gräfe's operation, in that in his procedure a linear incision is made in the sclerotic, two-fifths of a line behind the cornea, and a sixth of the iris is removed.

The advantages of Mr. Hancock's incision are claimed to be :—

1. By the situation and oblique direction of the incision, a free drainage of the fluid is provided for.
2. The iris is very slightly wounded.
3. The pupil is preserved of its original size and in its normal situation.
4. The operation is very simple, and is performed remarkably quickly.

This method was practiced in a patient with acute glaucoma, in whom the globe of the eye was much enlarged, hard, and resisting, and who suffered severe pain when pressure was made on the parts. The operation had the effect of relieving these symptoms.

PATHOLOGY AND PRACTICE OF MEDICINE.

BY RICHARD J. DUNGLISON, M.D.

I.—*Movable Kidney, in connection with Spinal Disease.* By WILLIAM HENDERSON, M.D.

About thirty cases of movable kidney, in connection with spinal disease, have already been recorded, and Dr. Henderson, Physician to the Clifton (England) Dispensary, publishes another, which has several points of interest. The patient, a female, fifty-one years of age, presented a tumor in the right hypochondriac region, which could be moved toward the umbilicus, and which disappeared under the liver when slight pressure was applied. The swelling was not painful, and resembled a healthy kidney in form and dimensions. The amount of urine passed was normal, and unaffected by pressure. While suffering from an attack of pleuro-pneumonia, she experienced severe pain in the region of the fifth and sixth dorsal vertebræ, which had been diseased for four years or more previously. During the attack she several times expectorated fetid pus in considerable quantities, and her countenance finally presented the appearance of suffering from malignant disease. Under a second severe attack of pleuro-pneumonia she died, about fifteen months after the tumor had been first examined. Immediately before her death she felt a sensation as if something had burst in her abdomen. Dr. Henderson made a post-mortem examination, and discovered extensive disease of some of the spinal vertebræ, while the right kidney was found to be perfectly movable, and suspended by a prolongation of the peritoneum inclosing the kidney. Dr. Henderson regards it as a matter of surprise that paralysis did not exist in connection with such extensive disorganization of the vertebral bones, the bodies of the fifth and sixth vertebræ being gone almost entirely, an open space being left large enough for two fingers to pass into the spinal canal. The position and relation of the kidney were no doubt congenital. No pathological condition was found to account for the sensation experienced just before dissolution.—(*Medical Times and Gazette,* November 19, 1859.)

II.—*Albuminuria in one Kidney, Saccharine Urine in the other.* By DR. GIBB.

Many interesting cases of disease of the kidney and supra-renal capsule have lately been described in the foreign and American medical journals. Some of these have presented but few points of interest, apart from the natural history of disease of those organs, as usually detailed. In a specimen exhibited before the Pathological Society of London, by Dr. Gibbs, it was conclusively shown, by the usual chemical and other tests, that one kidney secreted saccharine urine, while that from the other kidney was albuminous, the specific gravity and general characters of each varying greatly. The right kidney weighed seven ounces and three-quarters; the left weighed three ounces; the former containing two cancerous tubercles in its structure; the substance of the smaller kidney having been almost entirely absorbed. Cancer and tubercle existed in the lungs, and almost all the viscera were found to be affected with cancerous deposits.—(*London Lancet*, November, 12, 1859.)

III.—*Fatal Case of Contracted Bright's Kidney, with Pericarditis, etc.* By GEORGE JOHNSON, M.D.

In a case of pericarditis, which presented itself in the wards of King's College Hospital, London, examination was made by Dr. George Johnson, the attending physician, to discover, if possible, whether any renal disease had preceded the cardiac affection. Dr. Johnson made some remarks on the importance of tracing the connection existing between morbid conditions of the abdominal and thoracic viscera, and a knowledge of these mutual relations had induced him, in this case, to look to the condition of the kidneys. The urine was found to be pale, of a specific gravity of 1·011, containing albumen, and was sometimes passed involuntarily. It occasionally happens in bronchitic affections, that the urine becomes slightly albuminous, on account of a congested state of the circulation from obstruction in the chest; but Dr. Johnson inferred, in the present case, that such a condition did not satisfactorily account for it, inasmuch as albuminous urine from pulmonary disease is usually high colored, and is generally accompanied with copious deposits of lithates, characteristics which were absent in the pale urine examined. He diagnosticated, therefore, the existence of Bright's disease of the kidney, the organs being in an advanced condition of degeneration. He considered that the bronchitis and pericarditis existing had been caused by contamination of the blood with urine. The remedies adopted —cathartics, and a stimulating regimen—were unsuccessful in arresting the progress of the disease. No dropsical effusions accompanied it. Dr. Johnson regards the microscopic examination of the urine as a very important means of diagnosis, the tube-casts affording information, especially when albumen may not be detected in the urine by other tests.—(*Medical Times and Gazette*, October 15, 1859.)

IV. *Total Suppression of Urine.* By MR. J. B. JEAFFRESON.

A case is reported by Mr. Jeaffreson, of Monmouthshire, England, of an Irish woman, thirty-eight years of age, who, after giving birth to a still-born child of about eight months, was attacked with violent pain in the abdomen and left lumbar region, the abdomen being considerably distended. On the second day after her confinement she passed no urine, and but half a drachm came away when the catheter was introduced. She was put upon the use of dilute hydrocyanic acid, sweet spirits of nitre, and nitrate of potassa, while opium, calomel, and camphor were also prescribed. Three days afterwards, not having passed any urine since the catheter was employed, the instrument was again introduced; but not a drop of urine was passed. This condition continued for seven days, the urine being totally suppressed, and the usual diuretic treatment failing to have any effect. The patient survived about two days longer than any of the previously recorded cases of the same kind, and without any symptoms of uræmic poisoning.—(*London Lancet*, New York edition, December, 1859.)

V.—*Interesting Cardiac Affections. Rupture of the Aortic Valves.* By DR. SANDS.—*Rupture of the Chordæ Tendineæ.* By DR. DALTON.

In the Proceedings of the New York Pathological Society, for September fourteenth, we find two interesting illustrations of cardiac disease, in one of which the aortic valves were ruptured, and in the other the chordæ tendineæ attached to the anterior fleshy columns of the heart.

Dr. Sands presented to the Society a heart, which had been removed from the body of a policeman, who had received injuries while in the discharge of his duties, which had, probably, some connection with his death. Two days after the capture of his prisoner, he complained of pain in his chest; but no other symptoms supervened for ten days, at the expiration of which time there were signs of pleuritic inflammation, and a systolic murmur was heard in the region of the base of the heart. The pulse increased from 80 beats to 140 or 150, and then became almost too rapid to be counted. Dyspnœa accompanied these symptoms. On post-mortem examination, the chief point to be noticed was a lesion of the aortic valves, but one of them remaining intact. Of the other two valves, one is almost entirely gone; the other has a large rent, extending nearly the whole length of the valve; while the valve opposite the right coronary artery has a fibrous deposit upon it, and the endocardial lining membrane torn. The great difficulty, in such cases as Dr. Sands has described, is in diagnosticating the precise morbid condition that has supervened. Even violent external injury would not prepare us to find such changes in the important central organ of the circulation as were found here. It would be an interesting point to know, if the patient had previously suffered from cardiac disease.

Dr. Dalton described a case of rupture of the chordæ tendineæ, where the only symptoms presented were throbbing of the carotids, a bellows murmur at the præcordium, loudest at the base of the heart. The patient was unconscious, and his breathing was stertorous. Death took place three hours after the attack. No clots or fibrinous deposits were found in the heart, and no lesion except rupture of the chordæ tendineæ.

Cases of this kind are more interesting as pathological specimens than as means of instruction in therapeutics. The difficulty of diagnosis, and the impossibility of rendering any medical assistance, even if it were possible to make a clear diagnosis, do not render them of any striking value to medical practitioners. They belong to the *res curiosæ* of our profession, which deserve to be recorded, but which lead to but little practical benefit in the therapeutics of cardiac diseases.

VI.—*Rupture of the Right Auricle of the Heart.* By J. N. OREGEN, M.R.C.S.

A case, in some respects similar to those previously recorded, has been described by Mr. Oregen, a post-mortem examination having been made on the body of a man who had died suddenly. He had met, two or three months previously, with an accident, by the falling of a heavy piece of iron on his head; and the post-mortem examination was made with a view of discovering whether any lesions existed sufficient to account for this accident as a cause of death. No fracture was discovered, and the brain itself was healthy. On examining the chest, the pericardium was found distended with a very large quantity of semi-coagulated blood. The right auricle was found to have a rent situated between the entrance of the inferior vena cava and the right auriculo-ventricular opening, about six lines in length, and partly filled with a plug of fibrin. No dilatation or fatty degeneration of the right auricle existed, and the valves were perfectly healthy.

Mr. Oregen speaks of the rarity of these cases of rupture of the heart. By a singular coincidence, the descriptions of three interesting examples are contained in the journals. Violent mental emotion, the usual cause assigned for such a condition, did not exist in this case.

Professor Taylor, in his work on Medical Jurisprudence, mentions the case of a young man, somewhat similar in its history to the above, although the patient survived ten hours after his seizure, while in Mr. Oregen's case the patient survived but eight minutes.—(*London Lancet*, New York edition, December, 1859.)

VII.—*A Case of Aneurism of the Abdominal Aorta arrested in its Progress.*

By SAMUEL SOLLY, F.R.S.

The Proceedings of the Royal Medical and Chirurgical Society for November 8, 1859, contain an interesting discussion on a case of aneurism, reported and very fully described by Mr. Solly.

Captain W., thirty years of age, was found suffering from intense agony, the seat of which he referred to the epigastric region of the abdomen. He could not lie flat on his back without adding to the severity of his pain. The patient complaining of constipation, free motion of the bowels was produced by croton oil, and as soon as they had acted freely, a grain of morphia, with three drops of tincture of aconite, was given every three hours. It was difficult to decide what was the cause of the intense pain, until the history of the case showed that four years previously he had suffered from similar symptoms while actively engaged on horseback in following the hounds. The pain continued some hours afterwards, and he was never perfectly well up to the time of Mr. Solly's first visit.

Upon a careful examination, a distinct pulsating tumor was found a little above the umbilicus, at about the bifurcation of the aorta. The pulsation was felt not merely from behind forward, but laterally also. A distinct *bruit de soufflet* was heard upon auscultation, and the diagnosis that it was an abdominal aneurism was concurred in by Dr. Watson, who saw the case in consultation with Mr. Solly. This diagnosis was also confirmed by Mr. Leggatt, who made a record of the daily changes in the patient's condition. The pain disappeared temporarily under the anæsthetic influence of chloroform, but on its recurrence a drachm of tincture of opium was given him by injection. Sir Benjamin Brodie was also called to see the case. Mr. Leggatt could not discover, five days after Mr. Solly first saw the patient, any pulsation in the right iliac artery, and Sir B. Brodie and Mr. Solly could not as it passed over the pubis. In the left iliac and femoral arteries pulsation was distinct but feeble.

Thirteen days after Mr. Solly's first visit the aneurism was discovered to be smaller, the pulsation less distinct, and no *bruit* perceptible. He was ordered an aromatic mixture of the disulphate of quinia, sulphuric acid, alum, etc., which was abandoned soon, and quinia and creosote given to allay the sickness which had been persistent. The pulse soon became stronger, and a slight *bruit* became audible in the aneurismal tumor. The aneurismal thrill and pulsation and the whirring sound became again very distinct, and a whistling sound also accompanied it. A recumbent posture was recommended and entire confinement to bed. The tumor continued to grow larger, and he was placed upon the starving system. Six months after Mr. Solly's attention was called to him, the pulsation was found to be more distinct, and to extend more in the direction of the right groin. In less than a month after this, word was sent from Dover, to which place Captain W. had been removed, that "nature was performing a cure which no operation could have done;" pulsation became greatly diminished. Shortly afterwards, while taking exercise, the pain and nausea returned in all their intensity, and the history of the case varied but little, in the transition from intense agony to subdued pain, from that of months previously, and the patient at last died suddenly, after a very severe paroxysm, about three years after Mr. Solly ceased to see him.

Post-mortem examination revealed the cause of death to be the bursting of an aneurism of the abdominal aorta, immediately above its bifurcation, nearly four inches in length, and between two and three in breadth, the rupture occurring just above the origin of the left iliac artery. The coats of the aneurismal tumor were found plated with ossific and fibrinous deposits. These deposits, by weakening the coats, are often important causes of aneurismal tumors.

The history and treatment of this case, as detailed by Mr. Solly, gave rise to a very interesting discussion. In three cases described by Mr. Adams, an abdominal aneurism had found its way into the thorax, and burst into the left pleura. The merits of Valsalva's method of curing aneurism were canvassed, and Mr. Holmes Coote asserted that in no case had he seen it successful. Dr. Copland recollected a case of extensive aneurism of the aorta that was materially improved by rest, anodynes, a regulated diet, and attention to the normal condition of the bowels.—(*London Lancet*, Nov. 26, 1859.)

VIII.—*Transitory Homicidal Mania—Where does Reason end or Mania begin?* By A. DEVERGIE, M.D.

An interesting paper was read before the Imperial Academy of Medicine at Paris, on the subject of Homicidal Mania. The treatment of insanity which assumes this form is not alone interesting to those who have the care of institutions devoted to this class of affections. Questions of importance to the pathologist arise in all such cases. At what precise point does reason end; and where does insanity take its commencement? M. Devergie describes the case of a young man, nineteen years of age, son of one of the principal merchants of Bordeaux, who, on the 10th of November, 1854, dined with his father, to whom he bore very affectionate filial relations, and his stepmother, for whom he had gradually acquired dislike and intense aversion. At dessert, the young man quitted the table, and went to the drawing-room to warm himself. He then ascended to his bedchamber, took his fowling-piece and straw hat for the purpuse of taking a stroll in the open air, when an idea of suicide, which he had entertained for a month, suddenly came into his mind, and changed instantaneously into the thought of destroying the life of his stepmother. He took two of his brother's pistols from his room, although he had his own pistols already loaded, went back to the dining-room, and discharged the contents of one barrel at his stepmother. His father rose to seize him, but he fled from the house, crying, "I am a madman—an insensate! I have killed my stepmother!" surrendered himself to the police, and related circumstantially the whole occurrence.

This case is an interesting illustration of the rapid transition from reason to insanity, and from insanity to reason again. The jury acquitted him on the ground of temporary insanity.

Two or three years later, he committed suicide on the grave of his stepmother, whom he had murdered, having written in his note-book the following entry: "I wish to die upon the tomb of her whom I have so much loved and regretted." At what period did reason die out or mania begin? Was he rational during the whole period from the murder to his own suicide?—(*Journal of Psycholog. Med. and Mental Pathol.*, October, 1859.)

IX.—*Rapidly Fatal Anœmia, with Tertian Syncopal Attacks, Purpurous Spots*, etc. By THOS. B. PEACOCK, M.D., Assistant Physician to St. Thomas's Hospital.

In a paper read before the Hunterian Society, on the subject of prevalent malarious affections, Dr. Peacock has given a statistical record of various forms of intermittent and remittent fevers, classifying them according to sex, age, etc., and cited illustrative cases as types of interesting exceptional forms of malarious diseases. One to which we would particularly refer is a fatal case of anæmia, resulting from residence in a very damp and unhealthy house. When first seen, the patient, a female, seemed to be suffering from hepatic derangement. The urine was scanty, high colored, loaded with lithates, and contained no albumen The day before Dr. Peacock saw her, as well as the day after, she was seized with a fit, which was followed by great prostration. She resided in a house situated on the side of a high hill, but the water of a well in the cellar percolated through the brick-work, so that the house generally became very damp, and consequently an unhealthy place of residence. There was no rigor attending the syncope, and great heat and fever followed the attacks. The origin of her affection being deemed malarious, she was ordered quinia and bark, with stimulants, if there should be any recurrence of them She had two syncopal attacks every other day, similar to those she had suffered from previously. Petechial spots made their appearance on all parts of the body, and a very distinct systolic murmur became audible at the base of the heart. She died from rapid exhaustion, and no post-mortem examination was made.

Dr. Peacock prefaces the report of this case with the remark, that such obscure relations of cause and effect may render it a matter of doubt whether the cause assigned be the true one. In the absence of any other apparent antecedent, malarious poison is too often assigned to justify treatment which might otherwise be considered injudicious, or to shield the ignorance of the practitioner. We do not apply, however, this remark to the case of Dr. Peacock, which seems to belong to an obscure form of malarious disease, running into a typhous condition, or, perhaps, typhous in its nature from its very inception. Exposed, however, as she was by long residence to some of the phenomena of malarious poison, it is probable that the disease remained latent, until other causes cooperated to produce a violent explosion.—(*Medical Times and Gazette*, Nov. 5, 1859.)

X. *Appendix Cæci discharged from the Bowels; Recovery of the Patient.*

By Dr. Jackson.

In the Proceedings of the Boston Society for Medical Improvement for July fifteenth, may be found an interesting example of what must be an exceedingly rare affection. A robust farmer, aged twenty-four, had suffered from nausea and vomiting, distention and tenderness of the abdomen. Fears being entertained that peritonitis might occur, he was bled to the extent of a pint, but with little or no relief following. Calomel and opium, and a blister, were ordered; also a mild cathartic treatment. No movement of the bowels followed this mode of management, nor was the introduction of a tube as high up in the bowel as it could be carried attended with any better success. An infusion of tobacco (℈iv to a pint of water) thrown into the rectum, on the next morning, was followed by very great prostration, and by one or two small evacuations of a greenish mucus. On the next visit, Dr. Robbins, his attending physician, discovered an oblong tumor extending from above the spine of the right ilium nearly to the groin, to which a blister was directed to be applied. That evening, and for a day or two afterwards, the fæcal evacuations became very numerous, and the tumor gradually diminished in size. About eight days after the first appearance of the tumor, and four days after the subsidence of the symptoms had led Dr. Robbins to discontinue his visits, a substance was passed which proved, on examination, to be the appendix cæci, in a fetid, gangrenous condition. Three years had elapsed since this portion of intestine was passed, and no symptoms of inconvenience or pain had followed.

In the discussion which this case elicited in the society before which it was brought by Dr. Jackson, the hypothesis was advanced that some foreign body had probably become impacted in the entrance of the appendix, causing inflammation, obstruction of circulation, and ulceration, and finally a sloughing off of the affected portion. Dr. Jackson had never found, where the appendix was perforated, that the foreign body was at the entrance of the appendix, but midway. To express our ignorance of the functions of the appendix vermiformis cæci, it is scarcely necessary to do more than ask the question, what can be its use in digestion? It has been so often found wanting or obliterated in many subjects, that it is scarcely worthy of consideration, except as an illustration of a correspondence in structure between man and inferior animals.—(*Boston Med. and Surg. Journal*, September 15, 1859.)

OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN.

BY WM. B. ATKINSON, M.D.,

LECTURER ON OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

I.—*The Sickness of Pregnancy.* By DR. C. E. BAGOT.

1. Dr. Bagot relates a case in which, after every other remedy had been unsuccessfully employed, he had recourse, with excellent results, to the constitutional effects of mercury. As soon as salivation supervened, the vomiting ceased, food was retained, the patient rapidly recovered, and the gestation went on in a natural manner. The same patient, on two subsequent occasions, was similarly attacked, and each time the employment of calomel produced the happiest results. On the last occasion the illness was of the worst form, and fears were entertained for her safety. Dr. Bagot expresses the hope that a fair trial will in future be given to this remedy, prior to the induction of premature labor.—(*Dublin Med. Press*, October 12, 1859.)

2. Dr. Warren, of Neponset, has, in this complication of pregnancy, employed, with highly satisfactory results, a combination of Tinct. of Benzoin and Chloric Ether, as an application to the mouth of the womb. This he finds especially beneficial when there is neuralgia and excessive leucorrhœal secretion. His formula is:—

℞.—Tinc. Benzonii, c., fʒij;
Chloric Ether, fʒi;
Acet. Morph., grs. ij.

This is applied, by means of a brush, once in three or four days.

He also speaks favorably of the nitrate of silver, applied lightly to the *os uteri*, and injections of:—

℞.—Ferri Aluminis, fʒi;
Inf. Opii, f℥ij;
Aquæ, f℥viij.

For the alum, the iodide of zinc may be substituted in cases where a spasmodic action is observed in the womb or the neck of the bladder. This may be added in the proportion of five grains to the ounce.

He regards the good effects of these applications as arising from "the protecting coat which they form over the congested and abraded surface."—(*Boston Med. and Surg. Journal*, September 1, 1859.)

II.—*Uva Ursi as a Parturifaciant.* By DR. STRUBE, of New Orleans.

As, by some obstetricians ergot is thought to act too powerfully on certain occasions, and as it sometimes fails in producing the desired effects, either from worthlessness, or from some idiosyncrasy of the patient, it has been somewhat of a desideratum to obtain a substitute for this remedy, which has hitherto appeared to stand almost alone.

Dr. Gauchet, of Paris, highly recommends for this purpose the leaves of the *Uva Ursi*, in the form of a strong decoction, of which a teacupful is to be administered every half hour. He relates a number of cases in which this agent acted promptly, producing an increase of pains without any of that sudden acceleration which too frequently occurs after the use of secale cornutum. We would suggest a trial of this article, and a report of the results obtained.—(*N. O. Med. and Surg. Journal*, November, 1859.)

III.—*Records of Midwifery Practice.*

1. *An Analysis of Two Thousand Consecutive Cases in Midwifery.* By G. RIGDEN, Esq., etc. This paper was read before the East Kent and Canterbury Medical Society, and gives the following valuable facts: In the 2000 labors, 2025 children were born. One mother gave birth to twins at four consecutive confinements. Four mothers died from the complications or consequences of labor; one from convulsions and coma two hours after delivery, and three from puerperal fever, occurring five, six, and fourteen days respectively after labor. Ninety-six children were still-born, forty-six males and fifty females. Four cases had retained placenta, three from inertia and one from irregular contraction of the uterus. Five, after labor, had retention of urine, but all recovered. Five mothers had puerperal convulsions; one died. Twenty-six of the labors were with breech presentation; all delivered naturally; eight of the children died. Fourteen were face presentations; five of the children died; eleven of these cases were delivered naturally. Twelve cases were shoulder or arm presentations, and all were delivered by turning; five of the children being still-born. There were six cases of placenta prævia; all delivered by turning; all the children premature and still-born. Nine were cranial presentations, delivered by the forceps; six children being saved. Five mothers subsequently had puerperal fever; three died. One had puerperal mania, terminating in recovery after six months. Eight children were more or less deformed. Prolapsed funis, two cases. Of the twins, there were: both males, six; both females, twelve; male and female, seven.—(*Brit. Med. Journal*, October 29, 1859.)

2. *One Thousand Cases of Obstetrics.* By J. S. HARRINSON, Esq. This paper was read before the Reading Pathological Society, and gave the following data:—

In mothers between 15 and 19 years,	11
“ “ 20 “ 24 “	176
“ “ 25 “ 29 “	263
“ “ 30 “ 34 “	269
“ “ 35 “ 39 “	192
“ “ 40 “ 44 “	80
“ “ 45 “ 49 “	9

November, December, and January had more than any other three consecutive months. May had the largest; April, the smallest. Classifying them according to the hours, there were 270 occurring between 12 P.M. and 6 A.M.; 268, from 6 A.M. to 12 M.; 214, from 12 M. to 6 P.M.; and 248, from 6 P.M. to 12 P.M.

The duration of pregnancy averaged about 280 days. The average duration of labor was 7·36 hours; first labors being, as is usual, much longer. The 1000 labors resulted in the birth of 1010 children; 504 males, 506 females. Breech and feet presentations numbered 39; face, 17; with an extremity, 121. Lingering labors, 15; instrumental, 17; preternatural and complicated, 61.—(*Ibid.*)

3. *Thirteen Hundred Cases of Midwifery.* By A. SMITH, Esq., etc. In these 1300 cases, 1320 children were born; 700 males, 620 females; still-born, 65; premature births, 38. Presentations of the breech, 23; of the face, 2; forehead, 20; extremities, 9. Prolapse of the funis occurred in 6 cases. Placenta prævia, complete, 3—children all still-born; partial, 2—one child dead. Three mothers had convulsions; three had peritonitis; one, mania. Version was performed in 4; the forceps were used in 25; craniotomy in 3. There were no cases of retention of the placenta, or of severe post partum hemorrhage. He attributes the absence of these complications to the practice of applying a binder as soon as the second stage of labor commences, tightening it after delivery of the child, and again after the expulsion of the placenta, and abstaining from the use of ergot. The number of forceps cases is great, but no bad results have followed, and he believes their timely employment prevents laceration of the perinæum, rather than causes it.—(*Lancet*, November 12, 1859.)

4. *Still-born Children.* By J. HARDAWAY, Esq., etc. This paper gives 732 cases, in which 72 children were still-born, showing, in the aggregate, about ten per cent. No other statistics are given.

5. *Statistics of Four Thousand and Forty-nine Cases of Midwifery.* By R. DUNN, F.R.C.S., etc. Of these, there were 228 premature births; 2133 children were males, 1688 females; 2 cases of triplets, and 45 of twins; 3 cases of monstrosity. There were 170 still-born; 60 cases of preternatural presentation. Prolapse of the funis, 11; of which 8 were born dead. Breech presentations, 25; still-born, 9. Face presentations, 3; face to pubis, 11. He had 10 cases of craniotomy; 6 cases of placenta prævia; 30 of adherent placenta; 12 cases of puerperal fever, 3 died; 4 cases of puerperal convulsions, all recovered. Phlegmasia dolens occurred in 6 cases, and 2 proved fatal; scarlatina in 3, and 1 died.

IV.—*The Treatment of Menorrhagia, Leucorrhœa, etc., by Arsenic.* By A. P. BURNS, M.D., Ellicott's Mills, Md.

In cases of menorrhagia, leucorrhœa, hemorrhage in threatened abortion, and after delivery, and excessive lochial discharges, arsenic has proved highly serviceable. In the hands of Dr. Burns, it has never failed, he having long been in the habit of using it for these affections, and particularly in the form of Fowler's solution. The dose is ten drops every fifteen or twenty minutes, till hemorrhage is checked; after which he administers it in five-drop doses three times a day. He has even found it to suspend the menstrual secretion. In leucorrhœa, he gives five drops three times a day, persevering until a cure is effected.

Occasionally he has recourse to injections, or counter-irritation by blisters to the sacrum. When the patient is much debilitated, he adds to this treatment the following:—

℞.—Tr. Cinchonæ, c., f℥iij;
Tr. Cantharidis, fʒij.

Dose, a teaspoonful three times a day. He relates some cases to show the results of his treatment.

This remedy has been *continued without intermission for months, without any unpleasant effects.*

He says: "I know of no remedy so effective and so prompt in arresting hemorrhage in threatened abortion; it seems to suspend at once the contractions as well as the hemorrhage." Hence it cannot act by producing contractions of the uterus. It is a hæmostatic of great power, having succeeded equally well in hæmoptysis, etc.

In profuse lochial discharges, when this remedy is combined with the tonic mixture above, it acts promptly, even where every other remedy has failed, and the case has gone on for some weeks without amendment.—(*Am. Jour. Med. Sci.* October, 1859.)

V.—*Chronic Inversion of the Uterus.* By DR. F. RAMSBOTHAM, of London.

The following case is related by Dr. Ramsbotham, of the London Obstetric Hospital. It is interesting as showing the possibility of spontaneous replacement of an inverted uterus, after it had been displaced for some months, and even after some very rough treatment:—

"I was sent for on July 20, 1839, to see a young lady of relaxed fibre and cachectic habit, who had been delivered of her first child, after a severe labor, twelve hours before, and whom I found suffering from violent forcing-pain and great hemorrhage. She was exceedingly depressed. I detected a tumor, occupying the vagina, as large as a man's closed fist, entirely covered by a layer of coagulum. It was sensitive, though not painfully so, possessed a doughy feel, and became harder when compressed. The uterus could not be felt in the abdomen; but above the pubes there was a sensation of a most unusual void. As she had passed no urine since delivery, I relieved the bladder; and having no doubt that the tumor was the uterus inverted, I made strenuous efforts to restore it, without effect, but not without putting her to considerable pain. After some time I desisted in despair, fearing that I should lacerate the upper part of the vagina; for the tumor had become hard while I was making these efforts, and, in the same proportion, the circle of the mouth became closed around it in the form of a forcibly constricted ring. She passed a quiet night under the influence of morphia, and in the morning voided urine naturally, with some coagula. She was confined to bed for two, and to the house for three months, with severe lumbar pains, and copious irregular hemorrhages. From the middle of October till the end of December, she was free from flooding, but still annoyed by bearing-down pains, attended by a profuse, glairy, leucorrhœal discharge. The hemorrhage returned, and continued for two months, after which she was moved into the country, and I did not see her again till May twenty-second. She was then in such imminent danger that, in consultation with Mr. Hamilton, at that time assistant surgeon to the London Hospital, and with her general attendant, it was agreed to remove the tumor by ligature as soon as she was a little recruited. It was at this time the size of an ordinary nonpariel apple, and had every characteristic of an inverted uterus. On June fifth, with the assistance of the gentlemen mentioned above, I placed a ligature round its upper part by means of the double canula. The application gave but little pain at the moment, and the bleeding, which had been going on almost uninterruptedly, ceased immediately. In three or four hours, however, a violent rigor supervened; this was followed by symptoms of intense peritoneal inflammation, and the ligature was removed twenty hours after its application. The pain and other inflammatory symptoms gradually subsided; in a few days she was able to leave her room; she menstruated on July thirteenth less profusely than she had been accustomed to do, and continued regular in that respect; she regained her flesh, color, and appetite; was able to take a long walk, had no bearing down, nor difficulty in passing water; and, when I saw her in January, 1841, she told me that she enjoyed better health than she had done for many years. Nothing solid had ever passed from the vagina since the operation. Early in the year, symptoms of pregnancy manifested themselves; and I delivered her of a six months' fœtus on July seventh, in the same year, 1841. Since then I have also attended her with four other children. On one occasion the placenta adhered, and I had to introduce my hand to remove it. I sought for a polypus in the cavity, but there was nothing like one. On another occasion, after the placenta had been expelled naturally, she was harassed with violent spasmodic bearing-down pains, which induced me to pass my hand into the uterus; I there found the fundus and posterior part of the body protruded considerably downward and forward, there existing evidently a disposition for inversion to occur again; this, however, was obviated by the introduction of the hand." This ought to give us additional confidence in any effort we may undertake for the purpose of remedying, by manipulation, this serious accident.—(*Med. Times and Gazette*, November 5, 1859.)

VI.—*Treatment of Pelvi-Peritonitis.* By Dr. Tilt.

In concluding an article on the "Relation of Peritonitis to Uterine Pathology," Dr. Tilt says: "I am afraid that our larger knowledge of the diseases peculiar to women has not in every instance led to their better treatment. However wrong were our predecessors in giving the name of 'inflammation of the bowels' to so many different diseases, still the name led to the enforcing of perfect repose, of low diet, warm poultices, and leeches—treatment which I still believe is the most appropriate, notwithstanding the disrepute into which venesection has fallen, and the spreading of the dangerous doctrine that a stimulant system constitutes the best means of treating fevers and inflammations."

In pelvi-peritonitis, he applies leeches and gives calomel and opium according to the strength of his patient. Ointments of mercury and belladonna may be freely rubbed over the abdominal walls, and warm poultices, frequently renewed. Mild purgation will also be found eminently useful. To the anæmic he gives steel and quinia.—(*Lancet*, September 10, 1859.)

VII.—*Hydatidiform, or Vesicular Mole; its Nature and Mode of Origin.* By GRAILY HEWITT, M.D., etc.

The author of this paper endeavors to reduce the recorded facts in reference to the vesicular mole to a system, as well as to solve questions not hitherto satisfactorily answered. He describes a case, where the mole was expelled seven months subsequently to the birth of a first child, and during lactation. The ovum was about two months old, and presented no appearance of an embryo.

After some remarks in reference to the solutions offered concerning these bodies, the author gives his views. He considers that the death of the embryo occurs, which is followed by the transformation which is found in the chorion. Death arrests the development of the chorion, but not of the chorion villi. These continuing to grow from the hydatidiform mole, the third month being probably the limit within which this change can commence. Generally, no traces of the embryo are present; when otherwise, its size is extremely small. In particular cases he believes the death of the embryo to be due to a long protracted contraction of the uterus, arising from some irritation, as that of lactation. He believes that the placenta of a mature fœtus cannot be changed into a mole. Where such appears to have occurred, it is produced by a double conception, and one ovum having perished early; or, perhaps, a portion of the chorion villi being accidentally detached from the embryo, becomes thus changed. He was inclined to admit the possibility of the expulsion from the uterus of a true hydatid. The fact that in true hydatids we find cysts inclosed one within another, and in the other case round or oval bodies attached one to another, like beads, would be alone sufficient to prevent the possibility of a mistake in the diagnosis.

DR. BARNES, in these cases, had observed a tendency to fatty degeneration. The absence of the embryo was accounted for, by its undergoing oily transformation and dissolution. He had witnessed this in progress. He thought it not established that the death of the fœtus necessarily preceded the change, as fatty degeneration sometimes preceded the fœtal death.

DR. DRUITT agreed with the author in regard to the proposition that cystic disease of the chorion was an exaggeration and deformity of natural structure, though he doubted that death of the fœtus was the only and essential cause. He believed that a sort of apoplectic engorgement of the vessels of the decidua usually preceded abortion; and that the changes of structure were generally secondary, though some were primary. It is an anatomical error to speak of the disappearance of any of the villi of the chorion, whether of the placental or non-placental portion of that membrane. On the contrary, the villi of the whole chorion continue to grow up to the end of pregnancy, and are readily formed in every mature ovum. They are particularly large around the placental portion, and in this part in the membranes at full term he had occasionally found them excessively ampullated, as if in an incipient state of cystic degeneration.—(*London Obstetrical Society*, *Brit. Med. Journal*, October 22, 1859.)

VIII.—*A Weeping Leg.* By DR. R. S. ORR, of the Royal Glasgow Infirmary.

A married woman of middle age, who had had several children, presented herself with the following singular complaint, viz., a constant discharge of serum from the inside of one of her thighs, her clothes being saturated with it, and increasing on exertion. This had existed for seventeen years, no physician having been previously consulted. It could not be traced to any vicarious discharge. On the thigh, there were a number of well defined vesicles, some entire, some broken. Many had at the apex a minute aperture, from which exuded *guttatim*, a serous fluid of a slightly milky aspect. The fluid was not examined chemically. There was no excoriation or irritation of the skin from this discharge.—(*Glasgow Med. Journal*, October, 1859.)

IX.—*New Mode of Resuscitating Still-born Children.* By DR. SYLVESTER.

The "Ready-Method" of Marshall Hall has been very extensively employed both in this country and in Europe, and almost every number of the London *Lancet* contains the record of cases, in which it has been the means of saving life. Nor can it be too strongly insisted upon, where there exists the slightest hope of success. Dr. Sylvester, of London, relates a case of still-birth, where "sprinkling with cold water, etc., produced no effect, probably owing to the insensibility arising from compression of the head by the instrument (the forceps) or from the unusual severity of the labor. The case was given up as hopeless by the by-standers, when I determined to try my method of resuscitation; and, raising the child's arms up by the sides of his head, I extended them gently and steadily upward and forward for a few moments, thus enlarging the capacity of the chest by elevating the ribs through the pectoral muscles. By this means, I induced a tendency to a vacuum in that cavity, and an inspiration of air was the result. Next, by turning down the little patient's arms, and pressing them gently against the sides of the chest, I produced a forced expiration. In less than ten minutes the natural respiration was established, and I am happy to be able to add that the mother and child are progressing favorably."—(*London Lancet*, October, 1859.)

X.—*On the Suction Method of Rearing Infants.* By F. J. BROWN, of Chatham.

The object of this paper is to point out the value of milk as food for infants, and the importance of its administration by the suck-bottle, and also to oppose the practice of pap-feeding. Suction is the natural mode by which the child obtains its food, and any other way is extremely liable to produce injurious effects. Spoon-food causes flatulence, eructations, vomiting, and diarrhœa. The acts of suckling should not be repeated oftener than every three hours. Children thrive well on cow's milk diluted with one-sixth water, and slightly sweetened. This should be given warm, and with the child lying in a semi-recumbent position. At each period of suckling, the child should be permitted to take its fill, (four to eight ounces,) thus getting about one or two quarts daily. The child should be early taught to do without feeding for four or five hours in the night.

Prior to the appearance of the teeth, no other food should be given. Nature sends the teeth to indicate that mastication should replace suction. About this period it is proper to give a small quantity of pap, which may be made of white bread (free from alum) scalded or boiled slightly, and sweetened with a small quantity of white sugar. Gradually increase the feeding, and finally give beef-tea, gravy, and any wholesome food prepared for the usual meals of the family. When the teeth appear late, the feeding must also be adopted late.

In allusion to sleep, he adds that in all cases infants should sleep in a bed separate from their parents, but near at hand. Many children undoubtedly perish, not by being overlaid, but by asphyxia; the child sinking beneath the clothes, and thus being compelled to breathe an atmosphere highly charged with carbonic acid gas.—(*Brit. Med. Journal*, October 29, 1859.)

PHYSIOLOGY.

BY S. WEIR MITCHELL, M.D.,
LECTURER ON PHYSIOLOGY IN THE PHILA. MED. ASSOCIATION.

I.—*On the Action of Salts upon the Red Corpuscles of the Blood while in Circulation.* By DR. BATKIN MASCAU.

The mesentery of the frog was found most convenient for watching the influence of these agents, partly owing to the want of pigment, and partly by reason of the superficial bifurcation of the blood-vessels. A drop of solution of chloride of sodium (15 per cent.) being added, a change in the circulation is remarked previous to any narrowing of the caliber of the arteries or veins. The interspaces between the single blood-corpuscles disappear, the corpuscles being interrupted in movement and irregularly round. In some of the smallest vessels a complete plugging up occurs, while in neighboring larger ones the circulation is obviously accelerated. In a few moments the smaller vessels plugged up begin to show a movement which extends to them from the vessels still retaining blood-movement, so that they gradually become freed from their plug of corpuscles, and in about half an hour completely resume their usual condition. If, after the formation of such a plug, we cover the preparation with water, the process is immediately arrested; and, on again adding some of the saline solution, the above-described changes in the blood-vessels extend to all the capillaries in the field of observation, and the capillaries of larger diameter become also stopped up. The changes are finally observable in the veins and arteries, and in the last also an evident pulsation is seen.

After some hours, on being left to itself, the circulation becomes re-established, (firstly in the large, and then in the small vessels,) but not in its original rapidity.

A stasis so produced can easily be dissipated by the addition of water; but if some of the saline solution be added in its place, the circulation in the arteries immediately ceases, probably owing to interruption of the communication between the arteries and veins by means of arrest in the capillaries. At the same time a starting movement begins in the veins, by which at each systole the blood-corpuscles move from the periphery toward the centre, and at the commencement of the diastole recede in the opposite direction. Finally, this starting movement in the veins passes into an unbroken stream from the centre to the periphery, at first being very rapid, and then, becoming slower and slower, altogether ceases. The veins and capillaries then appear to be filled with blood, while in the arteries the movement continues.—(*Virchow's Archives*, Band xv., Hefte 1 and 2, p. 173.—*British and Foreign Med.-Chir. Review*, October, 1859.)

II.—*Normal Presence of Alcohol in the Blood.* By WM. HUTSON FORD, M.D.

The author of this elaborate and ingenious paper prefaces his experiments by a long argument, in which he starts with the premise that liver-sugar constantly formed is poured into the blood and disappears in the lungs. He combats at some length the idea that the sugar thus lost to chemical view is converted into lactic acid, and is of opinion that he can show that it is really changed into alcohol. The most valuable and interesting part of the essay is, of course, the experimental proof of the above proposition offered by the author.

He proposes to prove that the sugar of the liver is converted into alcohol, and in this form ministers to the calorific functions of the animal economy.

It will naturally occur to most of our readers, that of late the researches of Pavy have rendered it somewhat doubtful whether sugar is ever formed by the healthy liver. However this may be, if Dr. Ford's researches have been conducted with such care as to insure the accuracy of his experiments, their proof of the existence of alcohol in the blood will be of such value that the failure of the author's inductive process, owing to defective premises, will be of but little moment. The author who proves the existence in the blood of an unsuspected element, such as alcohol, may well be excused a defect in reasoning, especially when this is due not to carelessness, but to a too great faith in the conclusions of others. As a large part of the value of any novel labor of this kind must depend upon the number and character of the precautions with which the author surrounds his experiments, we shall detail the means employed by Dr. Ford in the present case, and with such detail as may afford grounds for judging of the probable character and accuracy of his experimental results.

"The only known method of separating alcohol from aqueous fluids in which it is contained is *distillation*. In conjunction with this process, we have employed eliminative agents, by which a weak, spirituous fluid, sometimes containing little else than water and alcohol, is obtained with certainty, when this latter body was originally present. Distillation is, moreover, the proper method for experimentation of this kind, on account of the completeness and promptness with which alcohol is separated, and the alcoholic fermentation arrested by coagulation of albuminous principles consequent upon the use of heat. We have distilled blood, lung tissue, liver tissue, and pancreatic tissue, in various conditions; always without previous admixture of substances designed to separate albumen, dissolve blood-corpuscles, or destroy sugar. Tedious processes of filtration, unavoidable in such methods, would occupy much time, and lessen the significance of the experiment by allowing a possible formation of alcohol from the hepatic sugar present. Coagulation of albumen by heat would, of course, dissipate any alcohol the liquid might contain. We have, for these reasons, except in certain cases, invariably submitted organic matters to the distillatory process, without prior admixture, upon the bath of chlorides of sodium or calcium, of sand, or upon the furnace itself; and when chemical substances have been mingled with blood before distillation, they have not been intended to effect chemical changes in that fluid, nor has their employment in any respect lengthened the period of time elapsing between *the death of the animals and the elevation of their structures to* 212° F. The apparatus used has varied somewhat with the nature of the experiments. For organic matters, copper balloons, holding from two to sixteen quarts, have been employed." For obvious reasons, glass retorts could not be used, except where corrosive reagents were to be added to the boiling mass. It will give some conception of Dr. Ford's industry and of the difficulties of his task, when we state that fifteen or more successive distillations were usually required to concentrate the distillates to the proper extent. Every possible precaution usual in such research seems to have been employed by Dr. Ford, and so far as a careful examination of his statements authorizes the formation of an opinion, no fault can be found with the details of the manipulations resorted to.

"The organic substance to be examined is weighed and introduced into a copper balloon of peculiar shape. The amount used should never more than two-thirds fill this vessel, and when blood is acted on it ought to occupy but one-sixth of the receiver. A strong heat is next applied by the aid of a salt or sand bath, or, in some cases, a furnace fire."

"When the bath is used, the first distillate is transparent; but when direct heat has been applied, it is whitish, semi-opake, and contains free ammonia, carbonate of ammonia, sulphuretted hydrogen, (especially when decomposing matters are experimented upon,) two or three oily substances, and one concrete oily body, a very volatile fluid coming over before general ebullition, and perhaps some acid substances in union with ammonia; besides a minute quantity of alcohol when this substance has been present in the distilland. The reaction is always alkaline. To this, first, hydrochloric acid is added, and after twelve hours it is redistilled from a glass vessel. Second, the distillate is treated with an excess of a cold saturated solution of acetate of lead; sulphide and chloride of lead fall, and the mixture is filtered to separate them. After a new addition of hydrochloric acid, another filtration, etc., the fluid is boiled, while, from time to time, small quantities of the acid are being added to the distilland.

"The distillate is thus concentrated, and a concrete, shining-yellowish, fatty-looking substance is now seen in the distillate, and is completely removed by the addition of a crystal of nitrate of silver, filtering and washing, as usual. Upon ebullition the distilland becomes dark hued, oxyde of silver and metallic silver falling down. Neither the concrete volatile oil nor the volatile substance, coming over into the tubes just before ebullition, and which we suspect to be acetal or aldehyde, is again observed."

Next follow charcoal purifications and repeated distillations. "The final distillate," says our author, "should weigh from fifteen to thirty grains, should have come over perfectly transparent, must be neutral to test-paper," etc. When the distillations are made with the bath heat alone, no empyreumatic odor is generated during the first process. In the final distillate, Dr. Ford thinks that he found alcohol. His tests of its presence were—

1. Chromic acid dissolved in sulphuric acid, and employed as usual. The emerald green tint, which results when this is added to a mixture containing alcohol, was relied upon as the test. The defects of this test are admitted by

the author, who conceives, however, that his processes were such as to exclude all chances of fallacy.

2. Dr. Ford observed that the optical appearances within the glass tubes, when the distilland first began to boil, were so peculiar when alcohol was present as to enable him to recognize it. This test can scarcely be regarded as of much value, although, for the author, long observation may have made it very reliable.

3. When not less than two per cent. of alcohol is present, it can be made to take fire and burn, by proper management, such as Dr. Ford describes.

"This test," he adds, "is entirely conclusive. The primary distillate, and all successive ones, until the very last portion is reached, where we assume alcohol to be present, constantly refuse to burn in the tube, or to color the chromic acid solution. Inflammable empyreumatic substances should, however, have been far more abundant early in the series than in the last distillate. Some organic acids, as formic and acetic, are inflammable in the state of vapor, but only when pure, or nearly so; the greater part, however, of the ultimate distillate was water; and acids are not present, the fluid being neutral to test-paper."

On p. 20, Dr. Ford shows that when alcohol has been artificially mingled with organic matters, it may be recovered by the above processes, and is recognizable by the same tests. He also shows that the physical characters of the last distillate indicate the presence of alcohol. No ultimate analysis of the supposed alcohol has yet been attempted.

Dr. Ford's direct experiments were as follows: After quoting Bernard, to show that sugar disappears from blood exposed to various gases, and even to the air, he describes five experiments, in all of which he examined ox blood for sugar, and, after finding it in each case, he exposed the blood to the air or to carbonic acid gas for from two to four days. On distillation he obtained alcohol from every specimen, and hence affirms that in these specimens the *normal* sugar of the blood had passed into alcohol.

In experiments six and seven, the presence of alcohol in putrefying liver was determined.

In experiments eight to eleven, inclusive, lung tissue was hashed, set aside to putrefy or alter, and finally examined for alcohol by distillation. It was found in every case. From these results, Dr. Ford infers the pre-existence of sugar in the lung tissue.

In all the preceding instances, if sugar were present, the alcohol was to be regarded as derived from it, the albuminoid matters present acting, according to our author, as the ferment. But if this process went on in life, we should be able to detect in the fresh tissues not only sugar, but alcohol.

To test this point, fresh lung tissue was distilled, so that but from forty-five to ninety minutes elapsed between the slaying of the animal and the raising of his tissues to a temperature of 212° F. In every case alcohol was detected.

In a third series of experiments, eight in number, blood from the neck-vessels and lungs and heart of the ox were similarly treated, and alcohol so invariably detected as to justify us, Dr. Ford supposes, in regarding it as a normal constituent of the blood. The process employed to collect the blood was such as to give a mixture of various bloods, and although this fluid came chiefly from the lungs, any mixture with other blood can only do harm, and might have been well avoided in experiments otherwise so elaborate.

In experiments twenty-eight, twenty-nine and thirty, it is attempted to be shown that when a known amount of alcohol is added to blood, it disappears in part by "hæmal oxydation."

Finally, alcohol was obtained by distilling fresh pancreatic tissue.

Dr. Ford's conclusions are as follows :—

1. "In blood which is allowed to enter into the putrescent state, sugar, normally present, is destroyed; being changed by the decomposition of albuminous matter into alcohol and carbonic acid, and this whether the blood be extravasated or still within the capillaries of the liver or lungs.

2. "Alcohol exists in liver tissue within *seven* (?) minutes after death.

3. "Sugar is normally and constantly present in lung tissue.

4. "Alcohol exists in lung tissue within fifty-five minutes after death.

5. "Alcohol exists in the mixed thoracic blood of the slaughter-house within forty-five minutes after death.

6. "Alcohol exists during the digestive state, in the pancreatic tissue, sixty minutes after death, and in the jugular blood of a dog in ten minutes after opening the vein.

7. "Alcohol, when added, is destroyed in aerated blood with greater rapidity than in blood saturated with carbonic acid gas."

Dr. Ford's theoretical conclusions are as follows, and although we may entertain more than considerable doubts as to some of them, in justice to the author, and his most industrious and ingenious essay, we give them somewhat in full.

1. The hepatic sugar secreted by the liver begins to ferment in that organ, continuing to do so as it passes through the hepatic veins, vena cava, heart, and lungs; in the fasting state, finishing its fermentation completely before the blood enters the pulmonary veins.

2. That the above fermentation is into alcohol and carbonic acid.

3. That venous blood possesses a greater fermentative power upon sugar than arterial; and that sugar and alcohol are, without exception whatsoever, present *at the same time* for every viscus or part of the body in the blood of such organ or portion, except when all the sugar of a certain blood has been fermented, while the alcohol has not yet been entirely destroyed; it may then be possible to obtain alcohol from a substance in which sugar does not exist; but, in general, in the dissemination of sugar during digestion and at other times, as in exercise, agitation, or experiment, sugar is *universally accompanied by alcohol in the blood.*

4. Alcohol produced by the hæmal fermentation of hepatic sugar is consumed or oxydized by a hæmal combustion, whose ultimate products are carbonic acid and water, and which constitutes a main source of animal heat.

5. That the red corpuscles are the agents of the hæmal oxydation of alcohol, etc.

6. That the ferment is albuminous matter in a state of change, etc.—(*Journal of the Elliott of Natural History*, vol. i., article II., Charleston, S. C., May 15, 1858.)

III.—*Experimental Researches on the Exciting Influence of Light, Cold, and Heat on the Iris in the Five Classes of Vertebrate Animals.* By E. BROWN-SÉQUARD, M.D.

From an interesting investigation of this subject, this distinguished observer has arrived at the following conclusions:—

1. Light is capable of acting as an energetic excitant of the iris and of thus producing a narrowing of the pupil.

2. The iris of the fish is not immobile, as was at one time supposed, and the changes in the size of the pupil are in this class more marked in certain cases than in mammals.

3. When light acts on the iris directly, and thus causes contraction of the pupil, it acts principally by virtue of its illuminating rays, and especially by its yellow rays.

4. When light causes contraction of the pupil in eyes removed from the head, it is rather by an action upon the muscles of the iris than upon its nerves.

5. A sufficient change of temperature causes the pupil to contract if dilated, and to dilate if previously contracted, in the eyes of mammals or birds, and after the organ has been removed from the orbit.

6. When an isolated eye is acted on by light, heat, cold, or galvanism, its pupil moves so considerably as to make it impossible to admit that this is due to vascular turgescence.

7. It seems likely, that if light is capable of acting as an excitant of the retina and iris, and not of other nerves or muscles, it is owing to the peculiar arrangement of the ocular tissues in thin layers, which may be an anatomical condition essential to the result.

8. The irritability of the iris remains after that of all the other muscular structures of the economy has departed.—(*Journal de la Physiologie de l'Homme et des Animaux.* Paris, No. vii., 1859.)

IV.—*On the Substance called Animal Starch.* By C. SCHMIDT.

Since the researches of Virchow on the amylaceous corpuscles so called, they have been studied with the microscope and with chemical reagents used on the microscope field; but to establish their nature as true starchy bodies, it is necessary that they should be shown, on ultimate analysis, to be hydrocarbons, or at least like other amylaceous matters, they should change into glucose when treated with acids in the way usually employed.

The small size of these elements and their union with neighboring tissues is such an obstacle to their analysis that C. Schmidt has been obliged to resort to the following means:—

It is possible, by choosing a tissue containing a large amount of the supposed starch cells, and washing this repeatedly with water, alcohol, and ether, to eliminate the soluble albuminates, fats, leucine, tyrosine, insosite, etc. What remains of an ordinary tissue so washed should yield, on analysis, a certain amount of hydrogen and carbon in union with nitrogen and oxygen, in such proportions as is usual in albuminoid matters, as albumen or fibrin. If, however, an amylaceous matter be present in any considerable amount, it would raise relatively the preparation of carbon, and lower that of the nitrogen. If, at the same time, treatment by sulphuric acid produced in the mass glucose, we should have proof enough that a hydrocarbon had been present in considerable amount, and that it was of a gummy or of an amylaceous character.

Accordingly, tissues rich in the supposed amyloid body were washed with alcohol, ether, and water, and variously treated with sulphuric acid. If there was present any starch, it should have been converted into sugar, a change which, however, did not occur.

Ultimate analysis of the suspected tissues also proved that nitrogen was present in such large amount as to make it evident that the pretended animal amyloid was not a hydrocarbon, free from nitrogen and analogous to cellulose.—(*Jour. de la Phys.*, No. vii., 1859, p. 516.)

V.—*The Capillaries of the Brain.* By CHARLES ROBIN, M.D., etc.

In an extremely interesting memoir upon the peculiarities of structure to be observed in the capillaries of the brain, M. Robin describes minutely a special tunic which surrounds the encephalo-rachidian capillaries.

"A certain number of these little vessels," says the author, "are enveloped by a special coat of the thickness of one or two-thousandths of a millimeter. This layer is homogeneous or slightly striated, is somewhat wavy, and lies at one to three-hundredths of a millimeter from the outer wall of the vessel. The interspace thus left is sometimes full of a colorless fluid mixed with molecular granules and sometimes with small, free nuclei, which are either closely packed or scattered at rare intervals, so as to leave the peculiar oval nuclei of the walls of the capillary in distinct view.

In all cases of persons aged from forty to forty-five years, this interspace also contains fat granules, isolated or in groups, and a large quantity of amorphous granules of hæmatosine, of various sizes, up to the two-hundredths of a millimeter. In no case are these bodies accompanied by blood-globules."—(*Journal de la Physiologie*, etc., No. 8, 1859, p. 543.)

VI.—*Some Observations on the Coagulation of the Blood.* By JOHN DAVY, M.D.

From a number of experiments on the blood of the common fowl, obtained by dividing the great vessels of the neck, and selected because the blood of birds exhibits the phenomenon in question in the most striking and rapid manner, the author infers:—

1st. That there are no indications afforded of the escape of volatile ammonia during the coagulation of the blood of the fowl, or of the presence of this principle in the blood.

2d. That the addition of ammonia in a notable quantity does not prevent coagulation.

3d. That a sudden reduction of the temperature of the blood, even when fully exposed to the air, has a greater influence in retarding the coagulation than the assigned cause of its fluidity, volatile alkali, when added.

The few trials made by the author with the sesquicarbonate and neutral carbonate of ammonia tend to show that "these salts of ammonia, used in small quantities, have the effect of retarding coagulation. In this their influence is analogous to that of most salts of the alkalies, and, like them, we know that in a large proportion they prevent it, and yet that, on dilution with water, coagulation takes place."

Some further experiments, also made with the view of testing the hypothesis advanced, that the presence of ammonia in the blood is the cause of its fluidity. are detailed. These are designed to show that "even on the supposition of ammonia existing in the blood in a volatile form, no appreciable quantity can escape in the short period of two or three minutes, which is about the time required for the coagulation of the blood of the fowl." And that "the volatile alkali in its action on fibrin is chiefly remarkable for rendering it viscid, and that its solvent power is inconsiderable."

Dr. Davy, in conclusion, observes that, as his results "are opposed to the influence of the coagulation of the blood being owing to the escape of any volatile matter, and *a fortiori* of the volatile alkali, the existence of which in the blood remains to be proved, they leave the phenomenon, as hitherto, a problem for solution, and open to question whether it be the result of loss of vitality or a chemical result depending on a new arrangement of elements of the coagulating part, the fibrin, without, as regards their number, any change of their sum."

It will be seen from the above that Dr. Davy does not accept Dr. Richardson's views as to the cause of the coagulation of the blood.—(*Dublin Quarterly Journal of Medical Science*, November, 1859, p. 425.)

MATERIA MEDICA AND THERAPEUTICS; MEDICAL CHEMISTRY; TOXICOLOGY AND LEGAL MEDICINE.

BY EMIL FISCHER, M.D.

Materia Medica and Therapeutics.

I.—*Comparative Researches on Oleum Morrhuæ, Rajæ, and Squali.* By M. Delattre.

In order to test the statement of M. Homolle, that the oils of the codfish, ray, and shark are of nearly the same composition, M. Delattre has subjected these oils to a careful examination. He prepared them from the fresh livers of these fishes, excluding atmospheric air as completly as possible during the process, and used for this purpose an apparatus of his own invention, consisting of a very large sand bath, in which large balloons of glass are buried to their middle. The livers, cleaned from all impurities, are put into these balloons, and the latter are brought in connection with a reservoir, out of which a stream of carbonic acid is generated, which expels the atmospheric air. This being done, the sand bath is heated to 50° or 60°, the oleum virgineum being gained at 50°, the amber-colored oil at 60°. Especial care is taken to prevent the formation of oleic, sulphuric, or phosphoric acid during the process. The author obtained the following average for the composition of cod-liver oil, (I,) the oil of the ray, (II,) and the oil of the shark, (III,):—

	I.	II.	III.
Oleine	988·70	986·94	987·17
Margarine	8·06	11·01	10·12
Chlorine	1·12	1·12	1·01
Iodine	0·32	0·18	0·34
Bromine	0·04	0·03	0·03
Sulphur	0·20	0·16	0·16
Phosphorus	0·20	0·28	0·20
Loss	1·34	0·24	0·94

During his investigations, M. Delattre observed the following important facts: 1. While cod-liver oil contains at common temperature 180 grmm. of margarine in 1000 grmm. of oil, it loses at zero nearly all its margarine, so that it contains not more than 4 grmm. in 1000 grmm.; along with the margarine a corresponding quantity of anorganic substances is separated. 2. Iodine, bromine, chlorine, phosphorus and sulphur do not exist in the oils of these fishes, combined with potassium or sodium, as is generally believed, but in the free state. The three oils, as obtained by M. Delattre, do not, in fact, contain any alkalies at all. 3. During spring the cod-liver oil does not contain any iodine. Further investigations might, therefore, prove the necessity of keeping the oil obtained at that season out of trade.

From experiments made on the sick, M. Delattre arrived at the following conclusions in regard to the therapeutical action of the three oils: 1. The physiological action of all of them is the same; they may, therefore, be used as substitutes for each other. 2. There exists, however, the following difference in regard to their therapeutical applicability: *a.* The cod-liver oil is more efficacious in phthisical patients than the oil of the shark and of the ray. *b.* The oil of the ray is employed with greater advantage in the diarrhœa attending dentition, and in swellings of the mesenteric glands, also in chronic diseases of the skin, and in rheumatism. 3. The oil of the shark is most useful in affections of the bones.

Devergie, who compared cod-liver oil and the oil of the shark with each other, found the latter not only more pleasant, but also quite as efficacious as the former. It is thus an important circumstance, as the supply of sharks (particularly of Squalus catulus) is never deficient, while Gadus Morrhuæ can often not be obtained, and as the shark possesses much less value than the codfish.—(*Bulletin de l'Académie*, xxiv. p. 820, 1859.)

II.—*On different Species of Helleborus.* By PROF. SCHROFF.

After treating in a very thorough manner of the phytography of the different species of helleborus which he has investigated, (Helleborus niger, viridis, orientalis Lam., and fœtidus,) the author proceeds to the second part of his treatise, in which he communicates the results of his experiments with different preparations of these plants. The following is a summary of the most important facts observed by him:—

I. *Results of the experiments made with helleborus niger on rabbits, and on man in health and disease.*—1. The root of helleborus niger, which is inodorous and nearly tasteless, does not possess any volatile active principle, as the fresh root in its totality is just as inefficient as a corresponding quantity of the dried and pulverized root. From one to four and a half drachms of the fresh root acted upon rabbits just as little as one or two drachms of the dried root. 2. The root of helleborus niger possesses but little efficacy; its aqueous and ethereal extracts do not produce any perceptible, or, at the most, but a transient effect. Only the alcoholic extract of the root, obtained in May, is somewhat more active; its administration had a fatal result in two animals, and in a third one it produced very serious symptoms. At all other stages of its development, the root yielded an alcoholic extract which was almost inert. Also the leaves of the plant possess but little activity. 3. The root obtained in May is more active than that gathered at any other period; next to it in efficacy is that obtained in June. 4. Two of the experiments instituted on animals, but particularly the observations made in sick men, prove, in a striking manner, the *cumulative* action of the root of helleborus. Given to rabbits in gradually increased doses, it produced in a few days considerable emaciation, in spite of the existing desire for food, and finally death. In patients to whom the extracts were administered in gradually augmented doses for several days, the first few doses did not seem to have any effect; but, after several doses had been taken, the action of the medicine became perceptible, and increased with each subsequent dose to such a degree of intensity that the medicine had to be discontinued; large quantities were, however, necessary to obtain such a result. Helleborus is thus a medicine to which the organism does not accustom itself, but which, like digitalis, colchicum, aconite, strychnia, and veratria, adds to the action of each subsequent dose that of all the former doses. 5. As in aconite, digitalis, and pulsatilla, the active principles in helleborus are a narcotic and an acrid one. The presence of the narcotic principle is testified by the following symptoms: Heaviness, dullness, stupefaction of the head, vertigo, tinnitus aurium, dilatation of the pupil, sopor, or a restless sleep, interrupted by dreams, reduction of the frequency of the pulse, unusual lassitude, ill humor, anxiety, and apprehension. The presence of the acrid principle, and particularly its action on the digestive apparatus, is proved by the increased secretion of saliva occasionally observed, the vomiting, the pain in the stomach and intestines, the diarrhœa which occurs in exceptional cases, and the increase of the urinary secretion noticed in some instances. Applied to the skin, neither the fresh root of helleborus niger, nor the powder of helleborus orientalis and viridis, made into a poultice with water, produce any irritation, inflammation, or vesication, as is commonly assumed. 6. The immediate cause of death is paralysis of the heart, which is probably owing to the action exerted by the blood upon the ganglionic nervous system. It is remarkable that the irritability of the stomach, small intestines, and heart disappears in an unusually short time, (a few minutes after the last respiration.) 7. The drastic properties ascribed to helleborus have not been confirmed, and the gastro-enteritis, said to follow the exhibition of large doses, has neither been found in ácute nor in chronic cases of poisoning. 8. The aqueous extract is inferior in efficacy to the alcoholic extract; the former contains chiefly the narcotic principle, while in the latter also the acrid principle is found.

II. *Experiments with helleborus viridis on rabbits and men.*—1. The root of helleborus viridis, like that of helleborus niger, does not contain any volatile principle. 2. The root as well as the herb possess, compared with that of helleborus niger, a high degree of efficacy. Two drachms of the fresh, or one drachm of the dried and pulverized root, produced death in seven and seven and a half hours, while four and a half drachms of the fresh root, and one to two drachms of the dried root of helleborus niger gave rise to no perceptible symptoms in animals. Doses of fifteen grains of the pulverized root make a decided impression, but do not produce death of the animal. One drachm of a stronger alcoholic extract killed the animal in one hour; the same dose of a weaker extract in three hours. Ten grains of the alcoholic, ethereal, and aqueous extract caused death always in from four to twelve hours, while one or two drachms of the aqueous and ethereal extract of helleborus niger produced but little effect. The extracts of the leaves acted in a corresponding manner. 3. Also helleborus viridis contains a narcotic and an acrid principle, but in much larger quantity than helleborus niger. The symptoms are the same as produced by helleborus niger, but are much more intense; the irritation of the intestinal canal especially is much more violent, and attended with fluid discharges, (even after a dose of two to four grains;) the diuresis is much increased. 4. Helleborus viridis, like helleborus niger, produces death in consequence of the paralysis of the heart. The depression which induces the paralysis is, however, often preceded by a stage of exaltation, during which the action of the heart and the lungs becomes more rapid and tumultuous, and congestion of the blood takes place to the brain and its membranes, and to the spinal marrow, which may give rise to hemorrhages. 5. Also from the use of helleborus viridis a distinct gastro-enteritis has never been observed. 6. The aqueous extract is not inferior in efficacy to the alcoholic extract; the alcoholic extract of the leaves is at least quite as active as the alcoholic extract of the root.

III. *Experiments with helleborus orientalis.*—(The roots with which the experiments were made were obtained from M. Landerer, of Athens.) 1. The root of helleborus orientalis considerably surpasses the root of helleborus niger, and even that of helleborus viridis, in efficacy; it is the true representative of the action of helebori. One drachm of the pulverized root was fatal in four hours; one drachm of the alcoholic extract in twenty-five minutes; one drachm of the aqueous extract in two hours. Five grains of the alcoholic extract produced in rabbits chronic poisoning, which led gradually to a high degree of emaciation, and to peculiar rigid contractions of the posterior extremities. 2. Helleborus orientalis contains an acrid and a narcotic principle, but in greater quantity than helleborus viridis. 3. Like helleborus niger and viridis, helleborus orientalis causes death by paralysis of the heart; the preceding stage of excitement is still greater than that observed after the use of helleborus viridis. 4. Gastro-enteritis could not be discovered. 5. The alcoholic extract proved to be more active than the aqueous. One drachm of the former produced death in twenty-five minutes; one drachm of the latter in two hours; ten grains of the alcoholic extract were fatal in less than two hours; the same quantity of the aqueous extract in seven hours. The ethereal extract, which seems to contain particularly the acrid principle, is still to be examined.

IV. *Experiments with helleborus fœtidus in animals.*—As the author could not obtain the fresh plant for his experiments, he does not consider them completed; he is, however, able to state the following facts: 1. Helleborus fœtidus surpasses the helleborus niger in the poisonous properties of its root and leaves, but is, however, inferior to helleborus orientalis, and even to helleborus viridis. One drachm of the alcoholic extract of the leaves of helleborus fœtidus caused death in two hours; one drachm of the alcoholic extract of the fibres of the root in half an hour; one drachm of the whole root in one hour; one drachm of the aqueous extract in six hours; while equal doses of the corresponding extracts of helleborus niger did not produce any, or but a slight effect. 2. The experiments with helleborus fœtidus also prove the presence of a narcotic and of an acrid principle. In what proportion they are present, and whether a third principle is united with them, as the peculiar odor of the plant seems to indicate, are questions to be decided by further investigations. The acrid principle seems to be most readily extracted by ether, and should, therefore, preponderate in the ethereal extract; but the symptoms during life seem to indicate that the narcotic principle predominates; the animals suffered of prostration, of diminished frequency of the pulse, and of respiration, of spasms in various parts of the body, and died either after an attack of convulsions, or gradually under the symptoms of paralysis. 3. Death is caused likewise by paralysis of the heart. 4. The plant and the extracts gradually lose their efficacy even with the most cautious preservation.—(*Prager, Vierteljahrschrift*, xvi. 2, 1859; and *Schmidt's Jahrbücher*, 1859, No. 10.)

III. *On Ranunculus Ficaria.* By STANISLAUS MARTIN. (Bull. de Thérap., lvi., p. 518, 1859.)

The author communicates his chemical investigations on the composition of the dried and fresh leaves, the bulbs and roots of ranunculus ficaria. Without giving the proportions, he asserts having found in the leaves fatty substance, volatile oil, traces of ficarine, chlorophylle, vegetable albumen, vegetable extractive matter, (the last two in the fresh leaves;) in the dried leaves a yellow coloring matter, probably a product of decomposition of the chlorophylle. In the bulbs, he found ficarine, volatile oil, starch, traces of ficaria acid, ligneous fibre; in the fresh root the same substances, but much more of ficarine and ficaria acid. The ficarine is light yellow; at the beginning of a sweetish, then slightly acid and astringent taste; soluble in water and alcohol, with which it foams; it burns on red-hot coals, with a disagreeable odor, unlike that of caramel; assumes with sulphuric acid a rose color; with chloride of iron, with caustic potassa and caustic lime, it does not undergo any change in color; on fermentation it does not form alcohol. The ficarine can be obtained in several ways, but the best process is the following: The peeled root is bruised to the consistency of pap, and extracted, in the balneum Mariae, with double its weight of alcohol of 28°; then often shaken, and, after three days, boiled for fifteen minutes; the liquid is decanted on cooling, the pap pressed out, the liquid filtered, and the alcohol removed by distillation. The residue is then treated with cold water, the solution filtered, and evaporated to the consistence of an extract. If starch is still present the ficarine must be treated with heated alcohol of 30°, filtered, and then the alcohol distilled off. The ficarine is to be kept in tightly-closed vessels.

It is well known that Plinius recommended the plant in hemorrhoids, but since the end of the last century the remedy seems to have been forgotten. The author recommends ficarine as a lotion in hemorrhoids, in the proportion of one part to fifty parts of distilled water; or as an ointment or liniment, in the proportion of one part to thirty parts of fat or glycerin.

V. Holsbeek states, (in the Presse Médicale, 22, 1859,) that the root of ranunculus ficaria, or ficaria ranunculoides, is well known in the country surrounding Brussels as a popular remedy in hemorrhoidal affections. It is used, in the form of powder, half a drachm to one drachm; decoction, one ounce and a half to two ounces to two pints of water; tincture, one part to six of alcohol; extract, one part to six of water; and syrup. In cases complicated with constipation, V. Holsbeek found pills made of the extract, in combination with extract of nux vomica, very useful. He prescribed two grains of the extract of ranunculus ficaria and one-eighth of a grain of extract of nux vomica, to be taken every morning and evening; and ordered at the same time fumigations with the steam of the decoction, and the introduction of a tent into the anus, smeared with an ointment containing extract rad. ficar. ranunc. and opium.

In Germany the efficacy of this plant in hemorrhoidal affections has been recently brought into notice again by Neuhausen.—(*Organ f. d. ges. Heilkunde*, ii. 4; *Schmidt's Jahrbücher*, September, 1859, ix.)

IV. *On Glycerin, and its Applications in Surgery and Medicine.* By M. DEMARQUAY. (Pamphlet, octavo, 42 pp. Labé: Paris, 1859.)

It is about five years since attention was directed to the advantages which the employment of glycerin presented, especially in surgery. M. Demarquay was one of the first to make use of this substance, and it is the result of a long experience which he makes known in his recent treatise.

The first part of it is devoted to the history and pharmacology of this liquid; it is produced, as is well known, in the fabrication of soaps and candles, but often remains impure, and does not present the necessary qualities; it is then more injurious than useful. We must therefore assure ourselves at first of the purity of the liquid which we are going to employ; the best glycerin is known at present by the name of *English glycerin;* it must not form a precipitate with the salts of baryta, sulphuric acid, hydrosulphuret of ammonia, and oxalate of ammonia; the adulteration with glucose is recognized by boiling the liquid with a small piece of caustic potassa, when the adulterated product assumes a dark color. Pure glycerin is neutral, as is proved by litmus-paper.

After having pointed out the conservative properties of glycerin, in regard to organic, and particularly animal substances, M. Demarquay speaks of its application in the dressing of wounds in general; the dressing is much more simple and more proper than that with cerate; the deposit of crusts around the wound is avoided; but particularly in cases of wounds of bad nature the use of glycerin is indicated; this liquid prevents the development of hospital gangrene, and causes the disappearance of this complication when it is developed, on the use of ordinary dressings. It is used with advantage in the dressing of gangrenous wounds, and particularly of those which succeed the incision made in anthrax. In military surgery it is particularly useful, in cases of contused wounds abundantly suppurating, when the dressing cannot be renewed often enough, and when the wounds, in consequence of the accumulation of the wounded, and from bad hygienic conditions, have a tendency to assume an unfavorable character.

In cases of deep abscesses, with burrowing of matter and fistulous passages, glycerin is advantageously employed, in order to check the abundance of suppuration, to clean the secreting surfaces, and to modify the bad quality of the pus; the liquid can be injected into these anfractuous sores; in the same way it may be used in the sinuous passages which are so often formed in stumps after amputation.

M. Demarquay then points out the utility of glycerin in dressing burns, all kinds of ulcers, chancres, chaps, and chilblains. In diseases of the external ear and affections of the eyes glycerin is equally serviceable.

We have not yet finished with the applications which can be made of this substance; it may perhaps be believed that the properties of so inert a liquid as glycerin are exaggerated; M. Demarquay protests against the prejudice which considers all those substances inert and without real action which are inoffensive and require no great precaution or prudence in their management; yet glycerin, already very useful in itself, can be rendered still more active by the addition of some other medicines, such as laudanum, tannin, iodine, aloes, etc.

A combination of glycerin with tannic acid, (*glycerole de tannin,*) for instance, is used with advantage in the treatment of vaginitis; the preparation is composed as follows:—

Glycerin	100 parts.
Tannic acid . . .	10 to 20 "

"The speculum having been introduced, an injection of water is applied, in order to remove all the purulent mucus adhering to the walls of the vagina; these, afterwards, are wiped with a dossil of dry charpie placed at the end of a long forceps. I introduce then one or more tampons of cotton, soaked in the tannic glycerin; and, in addition to it, a dry tampon, destined to retain the drops which tend to escape."

It may be useful to add a little tannin to the glycerin employed for dressing wounds. The reporter of the Journal du Progrès, who has treated some cases with this application, states that it seems to accelerate cicatrization.

Finally, M. Demarquay terminates his interesting memoir with the use made of glycerin in the treatment of diseases of the skin, and reports some experiments which he has made with glycerin taken internally.—(*Journal du Progrès*, September 30, 1859.)

V. *On Ozonized Oils.* By THEOPH. THOMPSON, M.D., F.R.S. (Read before the London Medical and Chirurgical Society.)

The author, after some general remarks on the properties of ozone, describes the results obtained from its administration in association with oils; the oils being ozonized by exposure for a considerable time to the direct rays of the sun, after previous saturation with oxygen gas, according to the process adopted by Mr. Dugald Campbell. The cases of fourteen consumptive patients to whom the ozonized oils were given are detailed, and the principal facts noted are also appended, in a tabular form. The conclusion to which these experiments point is, that the administration of ozonized oils has a remarkable tendency to reduce the frequency of the pulse. Of the fourteen patients whose cases are detailed in this communication there are only two in whom no such effect was observed; and although in a few instances the effect may have seemed insignificant or transient, in the larger proportion it was very considerable, and must be attributed to the ozone rather than to the oil, since it was repeatedly manifested in patients who had taken cod-liver and other oils without any reduction, or even with an acceleration of the pulse; and further, the effect on the pulse was nearly as distinct when the ozone was associated with the oil of the cocoa-nut or of the sun-flower, as with that of the cod-liver. This circumstance is the more significant since the administration of sun-flower oil without ozone has not appeared to the author to manifest any important remedial power. The reduction of pulse was usually observed in two or three days, and often continued progressive. A reduction of twenty beats was observed in certain cases to occur respectively in two, three, four, and six days; in other instances a reduction was noted of twenty-four pulsations in fourteen days, thirty-four in thirteen, thirty-six in twenty-two, forty in eleven. In one patient the pulse fell as low as sixty, probably considerably below the natural standard; but in most of the favorable instances the reduction stopped when that standard was obtained.

The apparent effect of the remedy is one which, prior to experiment, the author would not have anticipated. No other obvious result was noticed, excepting a general improvement in the patient's condition. In some of the patients the use of simple and of ozonized oils was alternated. In one case the alternation was made three times, and the result was in each interchange of treatment so direct and remarkable as to make that particular example equivalent in force to three experiments. In addition to the patients under his own observation, the author refers to four instances noted by Dr. Scott Alison, who obligingly pursued the investigation during Dr. Thompson's absence from the hospital. In these four cases the disease was in the third stage. In two, a remarkable reduction in the rapidity of the pulse, amounting to about twenty beats, occurred under the use of the ozonized oil, while the improvement induced could not be referred to any other cause.

Dr. Alison remarks: "I attach some value to this observation; for I prescribed the oil totally divested of all prejudice in its favor, and I have always been reluctant, on imperfect grounds, to refer results to the operation of medicines. If ozonized oil can reduce the rapidity of the circulation—a feature of great prominence in phthisis—this remedy possesses a most valuable property, rendered still more valuable by its contributing at the same time to improve the general health."

The author mentions having used ozonized oil of turpentine with marked and prompt advantage in some cases of hæmoptysis, but has not sufficiently repeated the experiment to feel entitled to express an opinion as to its remedial superiority over ordinary turpentine. He adds that, should more extended observation establish for ozonized oil the property indicated by these experiments, it will prove a valuable addition to our list of remedies, especially in consumption, which is a disease peculiarly characterized by hurried action; but not, perhaps, exclusively in this disorder, since there are other morbid conditions in the treatment of which it is very important to lower the pulse without reducing constitutional strength.—(*Dublin Med. Press.*, vol. xlii. p. 35.)

VI. *A Substitute for Fowler's Solution.* By DR. TH. CLEMENS.

Dissatisfied with Fowler's solution, which is liable to decomposition, and frequently adulterated with sulphate of lime, etc., the author has used for a long time the arsenite of bromide of potassium, (arsenigsaures Bromkali,) for the preparation of which he gives the following formula:—

℞.—Acid. arsenios. pur.,
Potass. carbonat. pur., āā ʒj;
Coq. cum Aq. dest., ℔ss.
Ad perfect. Solut., refrig.; adde
Aqu. dest. q. s. ut fiat solut., ℥xij.
Dein adde Brominii puri, ʒij.

This solution, which must be shaken during the first week several times daily, is, in four weeks, colorless, and then ready for use; it is to be kept well stopped, and protected from the light. It excels by its rapid, not destructive, but tonic effect upon the system. The preparation suggested itself to the author, from the fact that many mineral waters contain arsenious acid and bromine, to the presence of which, he believes, they owe principally their efficacy. He prescribes it in doses of three to four drops, to be taken in a glass of water one or two times daily, and has thus given it for many years without noticing any injurious effects. He has administered it with excellent results in intermittent fever, different chronic cutaneous diseases, secondary and tertiary syphilitic diseases of the skin, secondary syphilitic swelling of the testicle, and in white swelling of the knee. The author reports a great number of cases which serve to support his statements.—(*Deutsche Klinik*, 1859, 10–12.)

VII. *Creosote in Cough with Purulent Expectoration.* By PROF. HIRSCH.

Prof. Hirsch recommends, in his "Clinical Fragments," ii., the use of creosote in cough with purulent expectoration. He states that he discovered its efficacy by chance, in treating a case of protracted pneumonia, attended with profuse purulent sputa, emaciation, and hectic fever, which made him suspect the existence of tubercular infiltration, undergoing rapid softening; he prescribed creosote as a palliative against the troublesome vomiting from which the patient suffered, and found, to his astonishment, that not only the vomiting but also the cough and expectoration rapidly disappeared. Since that time he has administered creosote in doses of half a drop to one drop, in pills, in many cases where these symptoms existed, and has found it very efficacious.—(*Foriep's Notizen aus dem Gebiete der Natur und Heilkunde*, 1859, iii., 20.)

VIII. *Muriate of Gold and Belladonna in Affections of the Stomach and Chronic Vomiting.* By PROF. J. HOPPE.

Prof. Hoppe relates the case of a woman, thirty-two years of age, of rather weak constitution, who had suffered for nearly six years from vomiting of a thin, watery, sometimes acid fluid, and from a gnawing pain and feeling of emptiness in the stomach; the author prescribed one grain of muriate of gold in one ounce of water—ten drops of this solution to be taken four times daily, in a cup of water. All the unpleasant symptoms disappeared completely, and the appetite of the patient was considerably increased. After some time the gnawing sensation returned, and the patient was put on the use of extract of belladonna, of which she took one grain within two weeks, with the effect of obtaining perfect and permanent relief.—(*Preussiche Vereins-Zeitung*, N. F., ii., 24, 1859.)

IX. *Chloroform in Hooping-cough.* By DR. R. FLEHINGER.

Dr. Flehinger states, that by the use of chloroform in hooping-cough he has not only shortened the duration of the disease, but also the length of the paroxysms. The paroxysms do not occur so often, do not last so long, and the children are less exhausted and debilitated by them. The cough frequently ceases within six to eight weeks. The author uses chloroform in combination with olive oil, in a liniment composed of equal parts of both, which he orders to be rubbed on the breast, the sides, and the back; and, if there is much vomiting, also in the region of the stomach. If the paroxysms are very violent, and return frequently, Dr. Flehinger orders frictions with chloroform, without olive oil; and if the disease is complicated with bronchitis he recommends inhalation, which, however, is not to be carried so far as to produce anæsthesia. For this purpose he uses fifteen to twenty drops, on cotton, every two hours, continuing the application from several seconds to two minutes. He found it easy to carry out this mode of treatment even in the youngest patients; the result is often surprising, and chloroform is, according to the author's experience, the only remedy by which we are at present able to alleviate this disease.—(*Memorabilien aus der Praxis*, 30, 1859.)

X. *Infusion of the Leaves of Rhamnus Alaternus as an Antigalactic.*

The editor of the "Floriligio Medico di Roma" reports several cases of lying-in women, who, from different reasons, could not put their children to the breast, or had to cease nursing them, and used the infusion of the leaves of rhamnus alaternus for the purpose of stopping the secretion of milk. In all of them the secretion was quickly diminished, the turgid state of the breasts rapidly reduced, and the patients thus saved the trouble arising from this condition, and the inflammation so often following it. He adds, that he found it impossible to discover the least disturbance in the other secretions and excretions of the women to whom he had administered the remedy. He is therefore inclined to believe that the rhamnus alaternus exercises a specific action upon the mammary glands; and he proposes to apply this remedy also to other swellings of these glands. The rhamnus alaternus is an evergreen shrub, which is cultivated in gardens as an ornament, and is known in Italy by the name of "Olivelle," on account of the configuration of its leaves. It is given in infusion, the dose being five to six leaves to two pints of boiling water.—(*Zeitschrift für Wundärzte*, etc., 1859, xii. 1.)

XI. *Digitaline in Puerperal Fever.* By Dr. Serre.

In one of the late sessions of the Académie de Médecine of Paris, Dr. Serre communicated an elaborate treatise on the treatment of child-bed fever, in which he extols the efficacy of digitaline in this affection. He administered one granule of the preparation "digitaline," manufactured by Homolle and Quevenne, every four, five, or six hours. He reports nine cases treated in this manner, in eight of which the remedy acted very favorably, although the disease had made already considerable progress in some of them. The principal effect of it consists in diminution of the frequency of the pulse and of respiration, and a simultaneous amelioration of all the other symptoms. The efficacy of digitaline is, according to his statement, superior to that of quinine, which has been recently recommended, and produces a similar effect.—(*Gazette des Hôpit.*, 1859, 50.)

XII. *Arsenious Acid in Chorea.* By M. E. Barthez.

M. Barthez gives a detailed account of the case of a girl, eight years old, who had been quite healthy previously, but, in consequence of a sudden fright, had been attacked with chorea, six weeks before coming under his care. The patient recovered in a week, under the use of about one-twelfth to one-sixth of a grain of arsenious acid three times daily.—(*Gazette des Hôpit.*, 68, 1859.)

XIII. *Hœmatic Capsules.* By M. Foy.

M. Foy, a talented pharmacien, of Paris, proposes to give to chlorotic, weak, or convalescent patients, capsules containing extract made from the blood of the calf, sheep, or ox. The preparation of these capsules is extremely simple; no desiccation, trituration, or pulverization is required. The blood is simply to be evaporated in vacuo, and to the extract a certain quantity of phosphate of soda is to be added, to assist the gastro-intestinal solubility of the solidified fibrin. The proportions are, extract of arterial blood of calf, one pound; phosphate of soda, thirteen drachms; mix thoroughly, and make capsules of from five to ten grains. Each capsule contains a small quantity of iron, this very minute amount insuring the absorption of the metal, and assimilating the hæmatic capsules to the natural chalybeate waters. From ten to twenty capsules a day may be given, beginning with those made with the blood of the calf.—(*London Lancet*, December, 1859.)

XIV.—*Glycerin Ointment for the Itch.* By M. Bourguignon.

M. Bourguignon, so well known in Paris by his successful researches on "the acarus scabiei," has published, in the Gazette Médicale, the following formula. One general friction, not preceded by soap ablutions, is sufficient: Yolks of two eggs; essence of lavender, lemon, and mint, of each seventy-five drops; essence of cloves and cinnamon, of each 120 drops; gum tragacanth, half a drachm; well-pounded sulphur, twenty-six drachms; glycerin, thirty-two drachms. Total weight, nearly eleven ounces. Mix the essences with the yolks of eggs, add the gum tragacanth, make a good mucilage, and then add very gradually the glycerin and sulphur.

Many cures have been obtained by this preparation, which has the advantage of giving no pain.

The well-known Helmerich ointment, being really useful, M. Bourguignon has modified it, and substituted glycerin for the lard. In the altered form the preparation is not any dearer, as efficacious, and less painful than the original ointment. It does not grease the cloths, and has an agreeable perfume. Gum tragacanth, fifteen grains; carbonate of potash, thirteen drachms; well-pounded sulphur, twenty-six drachms; glycerin, fifty-two drachms; essence of lavender, lemon, mint, cloves, and cinnamon, of each fifteen drops. Total weight, nearly eleven ounces. Make a mucilage with the gum and one ounce of glycerin, add the carbonate, mix until it is dissolved, and then gradually add the sulphur and glycerin; lastly, pour in the essences. With this compound, M. Bourguignon advises two general frictions of half an hour, within twelve hours of each other, and followed, twenty-four hours afterwards, by a simple warm bath, as the glycerin is soluble in water. Two-thirds of the preparation should be used for the first friction, and the other third for the second.—(*London Lancet*, December, 1859.)

XV. *Bromine in Pseudo-membranous Affections.* By DR. CH. OZANAM.

To the cases already reported by him, Dr. Ozanam adds six others, four of membranous angina of the fauces, (one with scarlet fever,) and two of tracheal croup, in which the bromine water, prepared by him, has effected a cure within a few days.

It is worthy of notice, that chloroform destroys the odor of bromine so completely that it is only necessary to open a bottle of chloroform in order to make the odor in a room filled with vapor of bromine immediately disappear.

This effect is owing to the formation of bromoform, the odor of which is much less than that of bromine.—(*Gazette des Hôpit*, 72, 1859.)

MEDICAL CHEMISTRY.

I. *On the Tests for Detecting Sugar in the Urine.* By DR. WIEDERHOLD, of Göttingen. (Pamphlet, 8vo., 2d ed. Göttingen: J. H. Wiegand, 1859.)

The examination of urine, with a view to ascertain the presence of sugar in it, is almost daily required from the practitioner. The comprehensive treatise written by Dr. Wiederhold is well calculated to aid the physician in his task. The summary of it consists in the following:—

The cases in which the presence of sugar in the urine is to be ascertained are of two kinds.

1. The quantity of the urine secreted during twenty-four hours exceeds by far the normal average, (2000 CC.,) and its specific gravity is, at the same time, abnormally high, (more than 1020.) The urine has a greenish-yellow color,

and tastes and smells sweetish sour. In these cases it is sufficient to apply Trommer's test directly, and it will be rarely the case that the diagnosis of diabetes mellitus cannot be positively proved by this means. To render it still more sure, the fermentation test may be used, and sugar in substance prepared from the urine.

2. The urine does not possess the qualities described above; but there are reasons to suspect a beginning diabetes, or the presence of sugar is to be ascertained merely out of scientific interest, either in a physiological or pathological point of view; the following procedure is, then, the best to adopt: As large a quantity as possible of the urine is evaporated to dryness on the water bath, and the residue extracted by treating it repeatedly with alcohol. One part of the alcoholic solution is again evaporated on the water bath, and the residue formed by the evaporation dissolved in distilled water. This solution is then subjected to Trommer's test or to the silver test. If the experiments do not prove decisive, a solution of hydrate of potassa, in absolute alcohol, is added to the other part of the alcoholic solution. After some time, when the precipitate formed by the admixture has settled down on the walls of the glass, the supernatant clear liquid is poured off, and the residue washed several times with anhydrous alcohol. This being done, the residue is dissolved in water, and the aqueous solution is filtered with finely pulverized (chemically pure) charcoal prepared from blood, until the filtered liquid runs off clear and colorless. This solution, which, if necessary, may be somewhat concentrated by evaporating it on the water bath, is then tested for sugar, with an alcoholic solution of copper, or by means of nitrate of silver. If the reduction to the red suboxide or the formation of a silver film takes place, the presence of sugar is positively proved. In the contrary case, the absence of sugar can be, according to the author's experience, positively assumed.—(*Foriep's Notizen*, iv. 6, 1859.)

II. *On the Green or Blue Color of Pus.* By M. C. BERGOUHNIOUX.

The author is of the opinion that, with the use of some dexterity, the blue or rather green color of pus can be easily proved to be owing to the coloring matter of the bile. The bandages and dressings, soaked with pus, are washed in water, alcohol, or ether, and the pigment is obtained in as pure a state as possible. This being done, some bile—not fresh, however, but such the color of which resembles that of the dressings—is treated in the same manner as the liquid obtained by the washing of the dressings, and thus a solution similar to that derived from the pus is obtained. If both fluids are treated with the reagents generally employed in testing for biliary pigment, exactly the same phenomena will be observed in both solutions.

The author states that he has proved in this manner the presence of biliary pigment in meconium, in diarrhœal discharges, in the liquor amnii, in vomited matter, in the pus of urethritis, otitis, ophthalmia, coryza, arthritis, syphilitic or scrofulous abscesses of the glands, in serous exudations, in hydropic fluids, cadaveric infiltration, and many other normal and pathological fluids.

The blue or green color of the pus has been ascribed to widely different substances. Now, it was said to be owing to a favus, then to a cyanogen compound, to sulphuret of iron, etc. It is possible that various substances impart the peculiar color to pus. It is, however, worthy of notice, that Dr. Schiff found ferrocyanuret of iron in the coloring matter obtained in a mechanical manner from blue pus, a substance which has been found already several times in other parts of the organism.—(*Gazette de Paris*, i., 1859.)

III. *Researches on the Sugar found in the Glucogenous Matter of the Liver.*

By MM. BERTHELOT and S. DE LUCA.

It is known from the experiments of M. Cl. Bernard, that the glucogenous matter of the liver can be transformed into a particular glucose. But the nature of this glucose, and its specific characters, have not yet been precisely determined. We do not know, for instance, whether this glucose is identical with some of the different kinds of glucose known at present, such as glucose of grapes, of malt, lactic glucose, etc., or whether the hepatic glucose is a new kind, endowed with peculiar properties.

Having succeeded in obtaining the hepatic glucose,* in combination with chloride of sodium, in the crystallized form, we subjected this definite compound to a systematic examination.

It presents itself under the form of voluminous, limpid, colorless crystals, capable of reducing the tartrate of copper and potassa, and of fermenting under the influence of yeast.

These crystals are rhombohedrons of 78 degrees. Their rotatory power, determined by the aid of an aqueous solution, is directed toward the right; it was found to be equal to $+47^\circ$. This power is much more considerable in the first moments which attend the solution of the crystals.

These crystals, finally, contain 8·3 of chlorine, which corresponds with the formula,

$$2C^{12}H^{12}O^{12}, 2HO+Na\,Cl.$$

All these properties agree exactly with those of the combination of grape sugar with chloride of sodium, as known by the investigations of M. Peligot and M. Pasteur.

Thus the identity is proved of the glucose formed by means of the glucogenous matter of the liver and the ordinary glucose, that is to say, of the glucose of grapes and of diabetes.—(*Journal de Pharmacie et de Chimie*, October, 1859.)

TOXICOLOGY AND LEGAL MEDICINE.

I. *Blood-Crystals, and their Judicial Medical Importance.* By L. BUCHNER and G. SIMON.

Büchner and Simon, in a valuable paper on blood-crystals, give as characteristic of these the subjoined particulars: They usually form rhomboidal tables, but seldom rhomboidal columns. When somewhat imperfect, they take the form of a shuttle. Their color changes from yellow to black, but most frequently they are of a dirty-red brown. Their size is various; they generally lie in groups together, and often lie crossways, form the X figure, or they take the stellate form. Forms of needles, rods, or grains, are of little value in a forensic point of view. The crystals are insoluble in water, alcohol, acetic acid, phosphoric acid, and hydrochloric acid. They dissolve with difficulty in ammonia, in dilute sulphuric acid, and in dilute nitric acid; but are easily soluble in potash water, English sulphuric acid, and in the vapor of nitric acid. In chlorine water they lose their color, and look as if corroded. For the demonstration of the crystals, a very small quantity of blood, or of fluids tinged with blood, is required, but an excess of concentrated acetic acid is necessary. The character, age, or impurity of blood, in no way hinders the crystallization. To obtain crystals, a drop of fluid blood is to be mixed with a small excess of concentrated acetic acid, and evaporation is slowly made over a spirit-lamp; in the dried matter remaining the crystals will be recognized by the microscope. In cases where the blood which has to be examined has been robbed of its salts by washing, rain, or moisture, as may happen, crystallization will not occur by the simple process given above. Under these conditions it is necessary to add a few grains of common salt, when the capability of crystallization is restored. It is, perhaps, after all, best in forensic inquiries to use the salt on every occasion. A source of fallacy may enter inquiries of this nature, for it has been found that madder, red ink, dragon's blood, and some other substances, will also form crystals. Crystals thus formed may be distinguished by their want of color, irregular form, solubility in water, and different chemical reactions. Muroxide offers the greatest difficulty in determination, since it forms crystals similar to hæmatin crystals, both in color and form. Solution of muroxide gives, however, with acetic acid, a residue after evaporation of a clear brick-red color. This residue, covered with water, dissolves, giving a purple-red color. Addition of hydrochloric acid destroys the color, and potash causes dissolution with a blue color. Blood-crystals, on the other hand, are insoluble in the first, and are dissolved in potash with a green color.—(*Virchow's Archiv*, Band xv.; *British and Foreign Medico-Chirurgical Review*, October, 1859.)

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* Formed by the reaction of diluted hydrochloric acid on the glucogenous matter of the liver of the rabbit.

II. *Case of Rape committed on a Child.*

Dr. D. McKinlay relates the particulars of a case of rape committed by an adult on the person of a child of less than seven years of age. The injuries produced on the person of the child were remarkably extensive. They are thus described by Dr. McKinlay: "At the upper part of the cleft of her buttocks, behind and above the anus, the skin was besmeared with dried blood. In her private parts the vagina was lacerated in various directions. One laceration extended from the lower part of the vagina downward, dividing the recto-vaginal septum and perineum, on the left side of the raphé, down to the verge of the anus, and laying bare the rectum. Another laceration, having divided the upper part of the vagina, passed upward along the left nympha, and terminated near the root of the clitoris. The vagina was also lacerated laterally, so that for an inch and three-quarters inward there appeared an open lacerated cavity, or pouch, rather than the semblance of a continuous canal.

"In the cavity produced by the laceration there was some feculent matter. This was found to have come through a lacerated opening in the coats of the rectum. Three-fourths of an inch inward from the verge of the anus there was a lacerated opening in the rectum of nearly an inch in length, through which the fæces escaped into the lacerated cavity before described. This opening had evidently been produced at the same time with the other parts of the laceration, and was not owing to any subsequent sloughing of the parts."

On the clothes of both the accused and the little girl stains were found, in which, by the microscope, blood-globules, epithelial scales, and spermatozoa were detected. In the course of the treatment of the case it was found necessary to divide that portion of the recto-vaginal septum which extended between the verge of the anus and the laceration. It appears that the child gradually recovered, although for some time the action of the sphincter was not established. —(*Glasgow Medical Journal*, July, 1859, p. 135.)

III. *On the Physiological and Toxicological Properties of Tanghinia Venenifera.* By PROF. PELIKAN.

This tree grows in Madagascar, and belongs to the family of apogineæ, (to which also vinca and nerium oleander belong;) it contains a milky juice; its most poisonous part is the fruit, a stone-berry, similar to a lemon, with a stone resembling that of a peach, which is the principal seat of the poison. Prof. Pelikan had an alcoholic extract prepared from the leaves and stalks of the plant, and, aided by Prof. Kölliker, experimented with it on frogs. The experiments proved that it does not belong to the tetanic poisons. Its effect is particularly directed upon the heart, the action of which it paralyzes, leaving the ventricles in a bloodless condition; this effect is a direct one, and not brought about merely by the medulla oblongata and the spinal marrow. Secondarily, it paralyzes the motor nerves in the direction from the centre toward the periphery; tertiarily it paralyzes the muscles of voluntary motion. The tanghinia is thus to be considered a specific poison for the heart and the muscles; which, however, paralyzes the muscles less rapidly than upas antiar, veratrine, and sulpho-cyanide of potassium, but which, in regard to its paralyzing action upon the heart, is nearly equal to antiar, and surpasses considerably the two other poisons.—(*Verhandlungen d. Phys.-Med. Gesellschaft in Würzburg*, ix. i.; *Foriep's Notizen*, 1859, iv. 6.)

IV. *On the Effect of Inhalation of Arseniuretted Hydrogen.* By M. GOSEBRUCH.

According to M. Gosebruch, the inhalation of arseniuretted hydrogen, like that of hydruret of antimony, produces its poisonous effects in consequence of the poisoned blood not taking up oxygen any more, and of the hæmatoglobuline passing into a state of solution.—(*Foriep's Notizen*, 1859, iv. 5.)

Bi-Monthly Periscope.

SURGERY.

1. TRACHEOTOMY IN CROUP. By *Conway Evans, M.D.*—The author commenced by remarking upon the frequency and fatality of croup as a disease of early life, in illustration of which he observed that out of every thousand deaths of children between the ages of one and ten years, which occurred in England

and Wales during the year 1856, sixty were due to this malady. He then proceeded to examine into the rate of mortality from croup, and pointed out the very slight measure of success which has hitherto attended the methods of treatment usually employed in this disease. The following cases—four of croup and two of diphtheria (?)—in which tracheotomy was performed, were then narrated in detail:—

Case 1.—A boy, aged nine; attacked with croup of slow accession; temporary amendment in the symptoms, followed by threatening suffocation; tracheotomy; death four hours after the operation; existence of crupous exudation down to the second and third subdivisions of the bronchi.

Case 2.—A girl, aged three; croup treated by leeches; counter-irritation, tartar emetic and calomel; tracheotomy on the fifth day, asphyxia being so complete as to render artificial respiration necessary; ejection of false membrane from trachea, and likewise two casts of small bronchial tubes; after-treatment of a freely supporting character; recovery perfect.

Case 3.—A boy, aged two; croup, between two or three days, treated with emetics; tracheotomy on the third day, suffocation being nearly complete; death during the operation; the crupous exudation found after death to extend down to the first subdivision of the bronchi.

Case 4.—A boy, aged two and a half; croup treated by tartar emetic; suffocation imminent on the fourth day from the accession of the croupous breathing; tracheotomy; death from exhaustion sixty-five hours after the operation; false membrane found after death to extend down to the fourth subdivisions of the bronchi.

Case 5.—A boy, aged five; diphtheria (?) coming on slowly and insidiously; breathing croupous on the seventh day; treated by emetics, counter-irritation, calomel, and compound antimonial powder; suffocation imminent on the eighth day; tracheotomy, followed by supporting treatment; ejection of a piece of false membrane; sudden accession of severe diarrhœa about thirty-six hours after the operation, and death from exhaustion. No post-mortem examination.

Case 6.—A boy, aged ten; diphtheria coming on very insidiously during nearly a month; treated by salines, and the application of a solution of nitrate of silver to the throat; supervention of croupous symptoms, treated by counter-irritation, leeches, antimony, calomel, and chlorate of potash; asphyxia impending; tracheotomy; and stimulating after-treatment; death, apparently from syncope, about twenty-six hours after the operation. After death a thick false membrane, separable from the subjacent mucous membrane only with considerable force, was found to line the larynx and trachea, and to extend to the bifurcation of the latter. It probably, indeed, passed down into the lungs; but an examination of these organs was not permitted.

Observing that, as in a large proportion of the fatal cases of croup, the disease destroys life by asphyxia, the author proceeds to inquire into the reasons why tracheotomy is so rarely resorted to for the relief of this malady in Great Britain, and traces this mainly to the influence of the strong opinions against the operation which have from time to time been pronounced by many great authorities, both British and American, whose views in reference to this point are cited. These opinions the author believes have no valid foundation, and are unworthy of the confidence generally placed in them; and to this conclusion he is led from four classes of considerations, which are examined in detail. These are—1. The high rate of mortality from croup, both with and without treatment. 2. The immediate cause of death in a large majority of the fatal cases of the disease, viz., asphyxia. 3. The recorded cases of croup in which tracheotomy has been resorted to in this country when the patient has been all but suffocated, and in which complete recovery has followed the operation. 4. The great success which has attended the performance of tracheotomy in croup in France, in which country it has been extensively practiced. If to each of these considerations its fair value be assigned, there can scarcely be any other conclusion but that it is incumbent upon the practitioner to give a fair trial to any method of treatment in croup which promises for its results a lower rate of mortality than obtains under the usual plans, and especially to tracheotomy.

The objects to be gained by the performance of tracheotomy in croup are next pointed out, stress being laid upon the fact that the operation affords time for the disease to run its course, (which would frequently not involve the destruction of life, except for the occurrence of asphyxia, which ought really to be regarded as a circumstance in the disease in a great measure accidental,) and for the administration of such remedies as may be deemed advisable. The physiological effects of the free admission of air into the lungs through an opening in the trachea in a child undergoing suffocation from croup, are then considered, and the cause of death in those cases in which life terminates by asphyxia is also examined; the practical conclusion arrived at being that, while the symptoms of suffocation may be relieved in almost all cases by the late performance of tracheotomy, they may be prevented in many by recourse being had to that proceeding early in the course of the malady.

The principal objections which have been urged against the performance of tracheotomy in croup are then considered in the following order. Tracheotomy in croup has been objected to: *a.* As unnecessary when there is spasmodic closure of the larynx, and as useless when false membrane exists in the windpipe without such spasmodic closure. *b.* As useless when the false membrane extends below the point at which the opening into the trachea would be made, and especially when the croupous exudation passes down into the bronchial tubes. *c.* As tending in itself to induce bronchitis and pneumonia—diseases which in themselves involve considerable risk to life. *d.* As having been actually attended with so little success as practically to render the operation unjustifiable. *e.* As very difficult of performance, and as involving in itself great danger to life. The real value of each of these objections is then carefully and fully examined in the order above given, the answer to the first objection being illustrated by the following case:—

Case 7.—A girl, aged three; croup treated by the warm bath and by tartar emetic, in spite of which the case progressed from bad to worse until the third day, when, while symptoms of asphyxia were being gradually developed and signs of exhaustion were becoming well marked, the patient suddenly fell back in bed and died with scarcely a struggle. After death, but before the postmortem examination, tracheotomy was performed. A mass of false membrane was found, almost filling the larynx, and quite occluding the rima, and extending downward to the third ring of the trachea; but the lowest part of the croupous exudation was just above the top of the tracheotomy incision. No false membrane existed in any other part of the trachea. The results of tracheotomy for the removal of foreign bodies from the air-passages are then investigated, as well as those of the performance of this operation for the relief of other maladies than croup. But, as the statistical method of examining this subject is believed by the author to be productive of an impression upon the mind of the practical physician by no means so lasting as a narrative of the results of clinical observation, the following cases in which tracheotomy was performed for the relief of other diseases than croup are given in detail:—

Case 8.—A man, aged forty-three, came under observation when nearly exhausted from distressed breathing, dependent on syphilitic disease of larynx, (probably ulcerative;) tracheotomy, followed by a supporting plan of treatment; recovery; but, though able to return to his occupation, (a laborious one,) unable to breathe without the tube eight months after the operation.

Case 9.—A gentleman, aged seventy-two; nearly asphyxiated from spasmodic closure of the larynx, associated with some disease of that organ, (probably of a malignant character;) tracheotomy; recovery, as regards breathing; but, though living in a state of comparative comfort, unable to breathe without the tube nine months after the operation.

Case 10.—A man, aged thirty-six; suffocation impending from œdema of glottis; tracheotomy, followed by a highly supporting plan of treatment; recovery complete and rapid; voice also perfectly restored.

Case 11.—A girl, aged fifteen; nearly suffocated from œdema of the larynx supervening upon chronic disease of that organ, associated with "*lupus non exedens*" of face, lip, and thigh; tracheotomy; recovery, but inability to breathe on the withdrawal of the tracheal tube two months after the operation.

Case 12.—A lady, aged twenty-eight; œdema of glottis supervening upon tubercular disease of the larynx; suffocation imminent; tracheotomy; temporary recovery, the patient continuing to live in a state of comparative ease for five months after the operation, when death resulted from exhaustion consequent on the full development of the pulmonary phthisis.

Case 13.—A woman, aged twenty-three; œdema of larynx associated with syphilitic disease of that organ, treated by calomel and opium, in spite of which suffocation became imminent; tracheotomy, followed by supporting treatment; ejection of complete cast of bronchial ramifications of one lung; recovery complete, except as regards voice.

Case 14.—A girl, aged nineteen; sloughing of the soft palate and the back of the pharynx, of syphilitic origin; inability to swallow; supervention of œdema of glottis, and threatening suffocation; tracheotomy, followed by supporting treatment: the patient being fed for several weeks by the stomach-tube; recovery complete.

Case 15.—A boy, aged three and a half; foreign body in windpipe; tracheotomy; but no foreign body discovered; incisions in trachea enlarged, and windpipe fully examined on several occasions, but without success; eventually incisions made, not only through several rings of trachea, but also upward through both the cricoid and the thyroid cartilages, so that a finger could be readily passed from the trachea into the mouth, but still without the detection of any foreign body; ultimate recovery complete, and voice regained.

The conclusions deduced from all these considerations and facts is that tracheotomy, though frequently a difficult operation, is by no means so dangerous a proceeding as is commonly supposed. An inquiry is then instituted into the causes of the want of success which has attended the performance of tracheotomy in croup in this country, and this is attributed chiefly to the following circumstances, viz.:—

1. To the fact that tracheotomy has been very rarely indeed resorted to in croup in Great Britain, except as a last resort when other methods of treatment have been tried and found unavailing, and when the patient has become nearly asphyxiated. 2. To the fact that the treatment employed prior to the performance of the operation has almost always been of a more or less depressing kind, usually consisting in the exhibition of tartar emetic, ipecacuanha, calomel, the abstraction of blood, the use of the warm bath, etc. 3. To the fact that the after-treatment has generally not been of that supporting character which nature requires for the due upholding of the patient's strength until the phenomena of croup shall have had time to run their course; and to the difficulty experienced in commanding constant attention in the way of nursing and watching for some days after the performance of the operation. The author then strongly urges the propriety of having recourse to tracheotomy for the relief of croup early in the course of that disease, and immediately that the existence of false membrane in the windpipe can be satisfactorily determined, and emetics have been fairly tried; and for these reasons:—

a. Because tracheotomy tends to prevent the mode of death by which nearly all fatal cases of croup, in which this operation is not resorted to, terminate, viz., death by asphyxia. *b.* Because tracheotomy facilitates the ejection and removal of portions of false membrane from the windpipe. *c.* Because tracheotomy tends to prevent the exhaustion due to the extraordinary efforts of breathing almost always made by the patient in this malady. *d.* Because tracheotomy, by prolonging life, affords time both for the phenomena of the disease to run their course and for the administration of remedies and of means of support to an exhausted system. *e.* Because tracheotomy facilitates the employment of topical applications to the interior of the windpipe, upon which great reliance is placed by some practitioners. *f.* Because the early performance of tracheotomy in France has been attended with results which are admitted, even by the opponents of the operation, to have been far more favorable than when recourse has been had to this procedure as an ultimate expedient. The physiological and pathological differences between the condition of a child nearly asphyxiated by croup, and that of a man half strangled by some mechanical cause, are then pointed out; and the necessity which exists in the former case for the free employment of a supporting plan of treatment is clearly proved. The cause of death in those cases of croup in which a fatal termination ensues, notwithstanding the performance of tracheotomy, is next examined, and this is shown to depend upon one or more of the following conditions:—

1. On some accidental circumstance connected with the operation, such as hemorrhage into the windpipe, obstruction of the tube, etc. 2. On asphyxia

dependent on the extension of the croupous exudation into the lungs, or on the reformation of the false membrane after its having been once ejected. 3. On complicated diseases (either connected with the operation or without any reference to it) arising in the course of the croup, such as bronchitis or pneumonia. 4. On exhaustion—death by asthenia.

The author believes that croup, when it proves fatal, always tends to destroy life by exhaustion, and that this would be its ordinary mode of termination were it not that the part of the body, in which the most striking alterations of structure induced by malady occur, is one in which the existence of such a mechanical obstruction as is presented by the croupous exudation tends, as well in itself, as in the spasmodic closure of the larynx, with which it is often associated, to destroy life by suffocation before the disease has had time, as it were, to run its full course and produce death by asthenia. And he, therefore, strongly advocates the propriety of adopting a supporting plan of treatment in this malady both before and after the operation, but especially after its performance. The value of alcohol, as a remedial agent in the treatment of disease, is then examined, and the method in which it should be given, viz., in small doses at short but regular intervals, is pointed out. Alcohol should be regarded, as has been remarked by Dr. Todd, not as a specific remedy, but simply as a kind of food. It is really a hydrocarbon, very easy of digestion, possessing certain properties of enabling the body temporarily to withstand exhausting influences, and capable, by its undergoing oxydation in the system, of maintaining the animal temperature and of preventing waste of tissue.

The *modus operandi* of the remedies usually employed in croup is then discussed, and their real value indicated; and the error of supposing this disease to consist in ordinary inflammation in the windpipe is alluded to. And, while the inefficiency of the remedies commonly used in croup is pointed out to be as theory would lead us to expect, the same fact is shown practically by the results of experience, which clearly indicate that under all plans of treatment, exclusive of tracheotomy, croup is a very fatal malady. The value of emetics is also examined, and the danger which frequently results from the employment of tartar emetic is dwelt upon. The circumstances which tend to diminish the chances of success from tracheotomy, are then referred to under the following heads:—

a. The age of the patient. *b*. The existence of pneumonia or bronchitis. *c*. The presence of other diseases, such as measles, hooping-cough, etc. *d*. The employment of depressing remedies prior to the operation. *e*. The postponement of tracheotomy until the patient is *in extremis*. *f*. The extension of the croupous exudation into the lungs.

After suggesting a few practical hints in connection with the operation itself, and in regard to the inhalation of chloroform in these cases; and, after briefly glancing at the various points which have been examined in detail, the author thus concludes: It only remains to warn the practitioner against expecting a large share of success from this operation, inasmuch as in our present inability to ascertain whether the croupous exudation is limited to a small portion of the windpipe, or whether it extends into the minute branches of the bronchial tree, we must necessarily oftentimes recommend its performance in cases in which death must almost inevitably take place. But, while a careful examination of this subject clearly indicates the propriety of making an opening into the trachea in those cases of croup in which false membrane exists, and of not postponing the operation until the last moment; and while it leads to the anticipation of a decided diminution in the rate of mortality from this disease when the early performance of tracheotomy is extensively practiced; the student of science cannot but feel that tracheotomy is at best but an expedient of relief, capable by its mechanical action of obviating certain tendencies to death, and by permitting the administration of support to an exhausted system, of affording time for the due occurrence of certain processes necessary to recovery. Nor can the practical physician forget that some effectual remedy for croup has still to be searched for, and not to be found, in all probability, until the true etiology and pathology of the disease are far better understood than at the present day. At the same time, it is impossible to foretell how near at hand the day may be when there shall be found a man who will do for croup what Jenner did for small-pox, or when there shall be discovered a remedy for this malady, as certain in its power and as efficacious in its action, as is iodide of potassium in syphilitic periostitis, or as is quinine in ague.—*Medical Times and Gazette*, August, 1859.

2. COMMENTS ON THE SERIES OF TRACHEOTOMY FOR LARYNGEAL AFFECTIONS (EXCLUSIVE OF TRUE CROUP.)—In this series we have 37 cases, 17 of which resulted in recovery, and 20 in death. If we classify the whole of the cases with regard to the nature of the disease for which the operation was required, we shall find that in 18 the patients had suffered from *syphilitic laryngitis*. Of these 18, 8 recovered, and 10 died. In 3 of the 8 cases of recovery, and possibly in one or two others, respecting which our notes do not extend over a sufficient length of time, the patient was never able afterwards to dispense with the canula. Of the 19 non-syphilitic cases; in 7, the disease was acute laryngitis; in 2, it was inflammation of the pharynx and tonsils, probably complicated with œdema of the larynx; in 1, it was laryngitis occurring in the course of typhoid fever; in 6, it was chronic laryngitis; in 2, it was inflammatory œdema, complicating phthisis; and in 1, it was suppuration beneath the mucous membrane of the glottis. We will briefly consider each of these groups separately.

Acute Laryngitis.—In this group we count 7 cases, of which 3 recovered, and 4 died. Of the fatal cases, in the first death occurred suddenly in a fit of delirium, ten hours after the operation. The autopsy showed the epiglottis in a state of gangrene. In the second, death occurred before the operation was completed. In this instance the symptoms of laryngitis had only been present a few hours. The autopsy showed œdema of the submucous tissue of the glottis. In the third death occurred on the fourth day; but we have no particulars as to its cause, or respecting the post mortem. In the fourth case, an old man, the subject of albuminuria, died during the performance of tracheotomy for the relief of acute laryngitis. The patients in the three cases which resulted in recovery were all able to dispense with the canula within ten days of the operation, and in all the wound subsequently healed well.

Inflammation of Pharynx, Tonsils, etc.—Of the two cases in which laryngotomy was necessitated by inflammation of the pharyngeal structures, one resulted in recovery and one in death. The fatal case was that of an old man, in whom death occurred on the third day. The autopsy showed purulent œdema about the pharynx and glottis, and purulent infiltration of the lungs. The case which recovered was that of a girl in whom the right tonsil had become so much swollen that it occluded the pharynx. Deep punctures had been made, but no matter had been obtained. Laryngotomy was performed, but the canula was not introduced. The wound healed in about a week. Three weeks from the commencement of the symptoms the abscess in the tonsil gave way, and "about half a pint of greenish well-formed pas" was brought up.

Laryngitis occurring in Typhoid Fever.—Our series presents only one instance which can be placed under this heading. The man died twenty-seven hours after the operation.

Tracheotomy for Chronic Laryngitis.—This group includes 6 cases. In one of these the operation was performed twice within an interval of a month. We may thus count them as seven operations, and from six of these the patients recovered perfectly. The case which ended fatally was that of a delicate woman, in whom the disease had existed for six weeks, and in whose case reducing treatment had been employed. She did well for the first four days, but sank under profuse diarrhœa on the fifth. Extensive disease of the thoracic viscera was found at the autopsy. Of the five cases which recovered, in two (if not in three) the patients were unable to dispense with the canula at the date of the last note. In one of them the laryngitis was probably connected with pulmonary mischief, as the patient subsequently died of phthisis, having, however, quite recovered as far as the operation was concerned.

Tracheotomy for Laryngitis supervening during Phthisis.—In this group we have two cases; in both the phthisis was advanced, in both the operation afforded great temporary relief, but both ended fatally within three days of its performance.

Abscess beneath the Mucous Membrane of the Glottis.—The subject of this case died on the third day after the performance of the operation. At the autopsy an abscess at the posterior part of the larynx was found which contained pus in which one of the arytenoid cartilages lay quite detached.—(*London Med. Times and Gazette*, October 29, 1859.)

3. SULPHURIC ETHER AS AN ANÆSTHETIC; ITS FIRST USE IN MASSACHUSETTS GENERAL HOSPITAL.—Our readers are all familiar with the particulars of the introduction of anæsthetic agents into use, but the following pleasant account of the first use of ether in the Massachusetts General Hospital, will be read with interest. It is taken from an article by Prof. George Hayward, contributed to the last number of the British and Foreign Medico-Chir. Review:—

"It was my fortune to perform the first capital operation on a patient rendered insensible by the inhalation of sulphuric ether. This was done on November 7th, 1846, at the Massachusetts General Hospital, Boston. On September thirtieth preceding, Dr. Morton, a dentist, administered it to a man from whom he had extracted a tooth, without causing pain. Almost immediately after, he requested the late Dr. John C. Warren, who was at that time the acting surgeon at the hospital, to use it at that institution. Dr. Warren consented. It was inhaled by a patient, with partial success, on whom Dr. Warren operated on October sixteenth. The operation was the removal of a nævus from the face. On the day following I extirpated a large fatty tumor from the arm of a female, who was made wholly unconscious and insensible by the inhalation of the ether. The operation lasted seven minutes.

"At that time Dr. Morton was, I thought, the only person who knew what the anæsthetic agent was. On November first I took charge of the surgical department of the hospital, and in a day or two after Dr. Morton asked me if I were willing to allow him to administer his 'composition,' as he called it, to a female whose limb I was about to remove above the knee. I told him I would not, unless I knew what the article was, and felt confident of the entire safety of its administration. He at once told me that it was rectified sulphuric ether. He allowed me to communicate this to my colleagues, with an understanding that it should not be made known publicly, until he had obtained a patent, for which he had already applied. On the following day the operation was performed, in the presence of more than two hundred spectators.

"It rarely falls to the lot of a professional man to be the witness of a scene of more intense interest. The operating room was crowded. Many were obliged to stand. Besides the class of students in attendance on the lectures, numbering more than a hundred, and many of the principal physicians and surgeons of the city and neighborhood, there were present several clergymen, lawyers, and other individuals from the various callings of life. When I entered the theatre, before the patient was brought in, I found it, to my surprise, filled in every part, except the floor on which the table stood, with persons on whose countenances were depicted the almost painful anxiety with which they awaited the result of the experiment they were about to witness. I simply told them that I had decided, with the advice of my colleagues, to allow the patient, on whom I was to operate, to inhale an article which was said to have the power of annulling pain. The patient was then brought in. She was a delicate-looking girl, of about twenty years of age, who had suffered a long time from a scrofulous disease of the knee-joint. It had at length suppurated; there were extensive openings into the cavity of the joint; the cartilages were ulcerated and partly absorbed; the bones carious, and symptoms of hectic fever had already made their appearance. As soon as she was well arranged on the table, I told her that I should let her breathe something which, I hoped, would prevent her from suffering much from the operation, and that she need not be afraid of breathing it freely.

"As the ether was at the time administered by means of a large and clumsy instrument, which required to some extent the co-operation of the patient, it was desirable that the amputation should be done as rapidly as possible. Everything, therefore, was arranged with this view. I decided to perform the flap operation. One person was to compress the artery, another to withdraw the flaps, a third to hand the instruments, and a fourth to watch the pulse. I grasped the patient's limb with my left hand, and held the amputating knife behind me in my right, carefully concealed from her view. The mouth-piece of the inhaling instrument was then put into her mouth, and she was directed to take long inspirations. After breathing in this way a short time, the nostrils were compressed, so that all the air that went into the lungs must first pass through the machine, and of course be mixed with the vapor of the ether. She breathed with perfect ease, and without struggling, and in about three minutes from the time the instrument was put into her mouth, Dr. Morton said, 'She is ready.' A death-like silence reigned in the room; no one moved, or hardly breathed. I passed the knife directly through the limb, and brought it out as rapidly as I could, and made the upper flap. The patient gave no sign of feeling or consciousness, but looked like one in a deep, quiet sleep. Every other person in the room took a full inspiration that was distinctly audible, and seemed to feel that they could now breathe again. The second flap was then made, the bone sawed, five arteries were tied, and as I was tightening the ligature upon the sixth and last, she groaned, being the first indication of sensibility that had been given. Nothing more was done than to bring the flaps together, cover the stump with cloths dipped in cold water, and apply two or three turns of a roller to keep them in place. Her consciousness soon returned; she was wholly ignorant that the operation had been done. For some time she would not believe it, and said that she had felt nothing till I tied the last artery. The operation lasted a minute and three-quarters, not including the time required to tie the arteries. I did it rapidly, though it has been done in less time, because I feared that the insensibility might pass off, and we had no means then, as we have now, of continuing it as long as is necessary.

"Patients who have inhaled ether, when its effects are first passing off, are usually bewildered, not easily contented, and by no means inclined to do as they are desired. It would be almost impossible to persuade one of them at such a time to breathe through the instrument that was then in use. At present, fortunately, we can keep up the state of anæsthesia as long as we wish, by administering the agent employed for this purpose by means of a sponge. This simple contrivance was first used at the Massachusetts Hospital.

"The patient, whose case I have just spoken of, recovered rapidly from the operation, was in good health when I left home eleven years after, and I have no reason to suppose that she is not so at the present time.

"It will be readily believed that a result so successful, and witnessed by so many intelligent persons, made it impossible to doubt the anæsthetic power of the agent employed, and what this was very soon became known. In an almost incredibly short space of time, numerous operations were performed on persons rendered insensible by the inhalation of ether, in various parts of the United States and Europe, and there is hardly a country in Christendom in which it has not been thus used to a greater or less extent."—(*Cincinnati Lancet and Observer*, December, 1859.)

4. EXTRACTION OF CATARACT BY LINEAR INCISION. (From the Quarterly Report of Cases occurring at the Edinburgh Eye Infirmary. By *Benj. Bell, Esq., F.R.C.S.E.*, and *Patrick Heron Watson, Esq., M.D., F.R.C.S.E.*)—During the last three months, two soft cataracts have been removed by what has been called the operation of linear incision. The word linear is probably used in contradistinction to the flap, which is made by the incision in the ordinary operation of extraction, where it involves nearly one-half of the cornea. The proceeding of

which we are about to speak might be more properly named extraction through a small section.

The chief advantages of the operation seem to be these two: 1. It affords an easy and expeditious mode of getting rid of soft cataracts, to which alone it is applicable, for it is well known that when these are treated in the ordinary way, by being broken up with a view to solution, they are often dissolved very slowly and not without ultimate injury to the visual powers of the eye. Ophthalmic surgeons are familiar with the observation, that the process of solution is not unfrequently followed by a marked impairment of vision, as if the deeper and more important textures had, somehow or other, been interfered with in their nutrition, by the prolonged and exhausting effort to dissolve and remove the opake lens. But, by removing the cataract at once, as in the operation by *linear incision*, the organ is spared this effort at solution, and the likelihood of vision being restored is greatly increased. And even if a portion merely of the cataract escapes through the opening in the cornea, the remainder dissolves and disappears more rapidly and with less injury to the eye than if the whole lens had been allowed to remain in the chambers of the aqueous humor, after being broken up by the needle. 2. The smallness of the incision of the cornea—which, however, the cataracts being soft, is amply sufficient—renders the operation both less dangerous and more easily performed than the ordinary method of extraction for cataracts of hard and firm textures. Such cataracts always require an ample section of the cornea; and, under ordinary circumstances, and in suitable cases, no other operative procedure, notwithstanding the difficulty of its performance, can bear a comparison with it.

The operation by linear incision may be performed in the following manner: But, first of all, is chloroform to be administered? There seems to be less objection to its use in this operation than in ordinary extraction with a large division of the cornea; because, in the event of sickness and vomiting being induced, the risk of injury to the eye is obviously smaller. Moreover, unless the self-possession and steadiness of the patient can be relied on, there will be considerable advantage from inducing anæsthesia, if the scoop should require to be frequently employed in removing broken portions of the lens from the anterior chamber. Preliminaries being over, the incision of the cornea is made by means of a triangular-shaped knife, sharp at the point, keen on both edges, and about two and a half or three lines broad at its base. It should enter the cornea near its outer margin, and pass horizontally in front of the iris, until the whole length of the cutting edges has penetrated the anterior chamber. The knife is then withdrawn, care being taken that as little as possible of the aqueous humor be allowed to escape. The next stage of the operation consists in passing a fine cutting needle into the opening, freely dividing the capsule, breaking up the substance of the lens, and bringing the fragments into the anterior chamber. Most of the latter will, in all probability, be carried out by the aqueous humor, as it gushes through the wound of the cornea; but, if this should not be the case, we withdraw the needle, and with a small silver scoop, made for the purpose, endeavor carefully and gently to effect the same object. But, as we have already hinted, there is no serious objection to our allowing small fragments of the cataract, which is supposed to be of soft texture, to remain in the anterior chamber; for the wound in the cornea speedily heals, the aqueous humor is re-secreted, and the remaining portions will rapidly disappear. It is better far to trust to this course of events, than to give way to the *nimia diligentia chirurgorum*, which, by bruising the edges of the wound, might prevent it from healing, and perhaps occasion serious inflammation of the iris with all its consequences.

Some prefer breaking up the cataract, in the first place, with a very fine cutting needle, so accurately made as not to let out the aqueous humor, and then making the incision of the cornea in the manner already described. The objections to this are of a practical nature: the extreme difficulty of withdrawing the needle without allowing a little of the aqueous humor to escape, and then the ulterior difficulty, of cutting in a satisfactory manner with the triangular knife the imperfectly distended cornea. To obviate this latter difficulty, the second part of the operation might be postponed until the following day, when the aqueous humor would be resecreted; but then there might be some risk of inflammatory action being kindled by the portions of lens which had been brought into the anterior chamber. No general rule need be laid down. The principle of the operation being kept in view, the details may be modified in individual cases, according to the judgment of the surgeon.—(*Edinburgh Medical Journal*, September, 1859.)

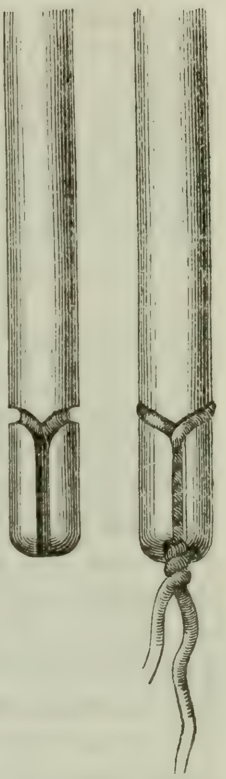
5. NEEDLE FOR THE WIRE SUTURE. By *R. J. Levis, M.D.*, Surgeon to the Philadelphia Hospital.—The present general use of the metallic suture in surgery will make acceptable a form of needle adapted to its peculiarities, and which, by facilitating its introduction through the tissues, will add to its convenience and efficiency.

For the free passage of the needle and wire, it is essential, first, that the wire be securely held; second, that it present, at its connection with the needle, no impediment to the transit through the tissues; third, that it should follow the needle in a direct line, not allowing an angle to form at the junction which will require traction to overcome. It is also important, for the convenience of the operator, that the needle should be readily threaded.

In using the ordinary surgical needle for the purpose, even though the needle be deeply grooved at the eye for its lodgment, the wire forms a ring-like attachment with the needle, which impedes its passage. A sort of hinge joint is also formed at the junction, which will be movable, no matter how tightly the wire be twisted, and there will be continually forming an angle with the needle, which is a great impediment to its use in delicate tissues, and in regions difficult of access, as the vagina, rectum, and fauces. Another inconvenience which has occurred with me in the use of the ordinary needle and the silver wire, is the liability of the wire to be pinched off by the forceps necessary to its introduction in the above localities.

These objections have induced some surgeons to introduce the wire by first passing the ordinary silk thread to which the wire is attached, and then drawn through.

For the purpose of overcoming these inconveniences in the ordinary use of the wire suture, I have devised a modification of the needle, which is so well illustrated by the accompanying proportionally colossal representations, as to render description almost unnecessary.



Its peculiarity is in what is usually the eye of a needle, though this is really without an eye, the attachment of the wire being accomplished by grooves, in which it rests.

A groove, deep enough for the lodgment of the wire, encircles the needle obliquely near its extremity, and leads into another groove, which is vertical. The vertical groove is just wide enough at its entrance to admit the introduction of one wire at a time; but the inside of the groove being large enough to accommodate two wires, when both are introduced and twisted together they are securely held. An attachment is thus effected which is as firm as if the needle and wire formed one continuous piece, and the wire being entirely incased within the grooves it will traverse any tissue of the body without the least impediment.

There is a decided advantage in having the wire double for an inch or more following the needle, as any break in the wire invariably occurs very near to the needle.

This form of needle has been so extensively used in this city as to thoroughly test its efficiency, and it has been preferred by the instrument makers on account of its simplicity and the facility and cheapness with which it can be made.

Such needles, of sizes adapted to all uses, may be had from Mr. Gemrig, of Eighth Street, or Mr. Kolbé, of Ninth Street, in this city.—(*Medical and Surgical Reporter*, December 3, 1859, p. 224.)

PRACTICE OF MEDICINE.

THE PATHOLOGY AND TREATMENT OF GALL-STONES. By *Dr. Thudichum.*—The author introduced his subject by stating that those who engaged in post-mortem examinations of the human body had, not rarely, an opportunity afforded them of examining concretions in the gall-bladder or gall-ducts, which for several centuries had engaged the attention of the learned and roused the wonder of the curious. To either, it must be a subject of astonishment that a large number of solid hard bodies should be met with filling almost the entire cavity of a receptacle destined to hold a mild and innocuous fluid, and that yet there should have been no symptoms of their presence during the life of the individual who carried those concretions in his biliary organs. To many, however, gall-stones proved by no means mild and innocuous, but, by frequent and painful effects, only too sensibly reminded them of their existence. These painful and sometimes fatal attacks the physician was called upon to relieve, to heal, or, as the case might be, to prevent. Like the morbid anatomist, the physician had to deal with the consequences of a disease which was itself not the object of his immediate attention. Both investigators might be compared to the geologist, whose inquiry into the history of an outburnt volcano had to be carried on upon the ashes, the lava, and other rocky products, and upon the large features of their conformation; it was impossible for him to observe their direct genesis—the fire that produced them was long since extinct. An inquiry into the pathology of gall-stones was mostly an inquiry into causes so remote and obscure that the difficulties encountered in such a proceeding ranked among the greatest which medical science had to battle with. Accordingly, our positive knowledge of those causes amounted to very little or nothing; surmise had taken the lead, and had assigned various causes, which the author mentioned at length, but which, on a stringent scrutiny, he said, must stand aside as incompetent. Nevertheless, it was his opinion that so soon as the chemistry of the liver and bile was well understood, we should be in a position to approach the problem from both sides—during life and after death—by physiological research and experiment, as well as by the anatomical and chemical examination of the dead body.

The author then related a case, being one of several in which Mr. Holmes, of St. George's Hospital, had kindly afforded him an opportunity of examining the liver and bile of deceased persons. The notes relative to the case had been given from the register of St. George's Hospital, by Dr. G. G. Rogers. They showed the subject to have been a married woman of sixty years of age, who was received into the hospital, under the care of Dr. Pitman, suffering from valvular disease of the heart, hemorrhagic infractus of both lungs, and dropsy. She had died within a week from the time of her admission.

On examining the bile in the gall-bladder, the author found it to consist of a homogeneous fluid, containing little coloring matter in solution; but a large amount of brownish-yellow coloring matter, together with many crystals of cholesterine, were suspended in it. It was analyzed, and the result of the analysis, which was given in outline, was that it did not contain a trace of biliary acid.

The gall-stones were about sixteen in number. On dividing the largest one into halves, the author found a large nucleus of brown pulpy matter, which could be easily removed with the point of a knife, or washed away with a brisk stream of water from a so-called wash-bottle. When collected in a white china dish, the matter appeared to be composed of thread-like films of different diameters, some a quarter of an inch long; some shorter pieces were one-sixteenth of an inch in thickness. All were cylindrical, as if molded in tubes; many had branches, and others divided dichotomically. The thinnest portions had a diffuse, broom-like end, as if the matter had not had time or quality to solidify in the tubular form, or as if it had solidified in a bag-like enlargement of the cylinder in which the rest of the cast was molded. The matter composing these productions was granular, without a trace of crystallization of any kind, was purely yellow in the thinnest branches, but became darker brown the thicker the forms grew. Forty or fifty medical gentlemen, to whom the author had an opportunity of submitting both the specimens and drawings of them, had borne witness to the accuracy of the representations. All of them agreed with him that these peculiar formations could be nothing else than *casts of the biliary ducts.* They were so fragile that the mere weight of a thin glass cover, as used for microscopical preparations, was sufficient to crush the thinner ones. When shaken in the watch-glasses in which the author kept them moistened with glycerin, the mere friction of one against the other would damage and disintegrate the most characteristic feature. About half the number of gall-stones, and among them some large-sized ones, although containing a good brown nucleus, yet did not admit of the separation of characteristic casts; but among the *débris* some fragments of casts could be distinguished with ease and certainty. From their extreme delicacy, and a variety of other circumstances, the author thought it a mere chance whether such casts, once formed, should be preserved, or destroyed by mixture with crystallized cholesterine, from which they could not be mechanically separated. They might hence occur more frequently in gall-stones, or otherwise, than we are able to find them.

The material of the casts was not chemically homogeneous. A yellow portion was extracted; another portion, probably bilifulvine, remained. Some had a peculiarly ragged or variably projecting outline, which made the author examine for cylindrical epithelial cells; but however great the probability that such cells might adhere to the circumference, or enter into the body of the casts, being epithelial proper to the biliary ducts, certain it was that no such formations could be identified.

Dr. Thudichum then animadverted upon the numerous reflections suggested by this observation. He was of opinion, he said, that true bilious attacks, and cases of acute, so called, idiopathic jaundice, might hereafter find an explanation by the discovery of a real and material obstruction of the passages of the bile by formations similar to those which he had described. After referring to a case given by Frerichs, which seemed to present a feature in point, he mentioned the branched calculi, and also the branched gall-stones found by Dufresne, in the finer ramifications of the biliary ducts, as presenting, perhaps, some analogy to the casts described.

The author then discussed at length the possible or probable circumstances which may produce gall-stones. The main cause appeared to him to be the decomposition in the gall-bladder of the solvent of cholesterine—taurocholic acid.

Having related several cases in which the author had found gall-stones in the gall-bladder or liver after death, and having recapitulated the various descriptions of gall-stones, he remarked upon the symptoms produced by these concretions during life. He concluded his remarks upon the passages of gall-stones through the biliary ducts, with the statement that he had not been able to find a case on record of a person who, during life, suffered from well-authenticated attacks of the passages of gall-stones, and was, after death, found not to harbor some concretion or other in his biliary passages.

After referring to the general termination of cases of all kinds, and relating some in point from his own experience, Dr. Thudichum detailed a case which he had had an opportunity of treating for several years and watching to its conclusion, and which he considered to be an appropriate introduction to the question of treatment. The case showed that gall-stones might exist in the gall-bladder during forty years, produce recurrent attacks, and yet, with prudent living and medical assistance, the patient might attain the age of eighty. The aged patient took the celebrated mixture of turpentine and ether with so much apparent benefit, that during four years following the last of several attacks of passing gall-stones, he allowed few days to pass without taking from half a drachm to a drachm of the mixture. After his death, the gall-stones were found very soft and pulpy, by which observation the theoretical value of the ether and turpentine mixture assumed a sort of empirical confirmation, although, on strict scrutiny, the direct solvent action of these substances could not well be understood.

For the symptomatic treatment of the passage of gall-stones, the author said we had, as heretofore, to rely mainly upon opium, which was sometimes better borne in the form of pills than in that of tincture. An overdose of this drug was to be guarded against, as severe narcotism sometimes followed large doses of opium, when the pain, which caused it to be given, suddenly subsided, from local causes. A case which had happened in Ireland some years ago, the author thought, suggested caution. Patients were, however, more apt to take excessive doses of opium on their own account than the practitioner was likely to prescribe them.

After some remarks upon the dietary and hygienic rules to be observed by gall-stone patients, the author suggested that in some appropriate cases an operation for the removal of gall-stones through the abdominal walls should become a subject of consideration for surgeons. When the cause and origin of gall-stones were a little better known, they might be prevented, and to that time he looked forward with confidence and hope.

Mr. Harrison was happy to bear out one of the statements of the author by a case of his own. He exhibited the gall-bladder of a male patient who died of pulmonary consumption, which was closely packed with numerous small and large cholesterine calculi, incrusted by some white phosphate of lime. There had been no symptoms arising from these concretions during life. He also adverted to a second case of his, which terminated fatally, in which the prolonged jaundice and ultimate death had been caused by the arrest of a single large calculus in the common duct.

Mr. Canton had found gall-stones repeatedly after death in very fat subjects, and thought there might be some connection between the obesity and these concretions. The coincidence of the atheromatous condition of the arteries with gall-stones, as mentioned in the first case of the author, was also in accordance with his own experience. He inquired whether the author had made analyses of blood as to the quantity of cholesterine contained in it.

Dr. Richardson having alluded to the effects of the loss of bile by a biliary fistula in animals, which he thought was contra-indicating the proposed operation, referred to points of diagnosis. He had in two cases been able to verify the diagnosis by Dr. Cockle, of gall-stones in the gall-bladder, by the sound produced by these concretions when brought into sudden contact by percussion. He also mentioned a case of his own, in which he found sixteen calculi disposed in the liver; and concluded with some interesting remarks upon the connection of gall-stones with gout.

Mr. Gay had treated two cases in which gall-stones were discharged through the abdominal parietes by the spontaneous act of nature. They made their exit near the umbilicus. It was remarkable that in neither case were they accompanied by biliary matter, nor followed by the establishment of biliary fistulæ.

Mr. Ross had seen three cases of extreme deposit of fat, in which gall-stones were discovered after death. He thought the observation, by the author, of casts of the biliary ducts, a most important discovery, and considered his paper a turning-point for future inquiries.

Dr. Hare animadverted upon the common coincidence of gall-stones with pulmonary phthisis, and said that excess of fat could not in these cases be any etiological consideration. The dilatations in the gall-ducts which had been mentioned in one of the author's cases he considered to be cavities left by the softening of tubercles. They were also found in phthisis, but ordinarily only in tuberculous subjects below sixteen years of age. He did not agree with Rokitansky as to their being enlargements of the biliary ducts, as he had never observed any communications with such ducts.

Dr. Smith inquired as to the rationale of the dietary rules laid down by the author. He combated the notion of an etiological relation between obesity and gall-stones, particularly upon the basis of his own experience in phthisis.

The President remarked upon the operation which the author had hinted at, and thought that there were many difficulties in its way. He should like to hear from physicians the number, nature, and prospects of such cases in which the operation for extracting gall-stones could be thought of. The operation would be impossible in cases where the calculus was closely embraced by the bladder. But, from his knowledge, he thought it not impossible that cases fit for operative relief might present themselves; and in cases of distended gall-bladder, (which might occur with calculi,) an operation such as the author had mentioned had actually been performed with success.

Dr. Thudichum, in reply, expressed his thanks for the kindness and attention which the Society had manifested. The cases and opinions brought forward by the gentlemen who took part in the discussion had been eminently interesting to all and instructive to himself. He could not reply seriatim to all observations, and would therefore only say that, according to his statistical researches, no habit or temperament of body could be accused of favoring the production of gall-stones. The fat and the lean, the new-born infant and the octogenarian, were alike subject to the complaint. As a general rule, he thought gall-stones the sequel of an acute process which produced insoluble coloring matter, perchance casts of the biliary ducts, upon which the cholesterine was deposited. But whether the cholesterine merely deposited upon the coloring matter as it would upon any other foreign body, or whether its precipitation was also produced by and an essential symptom of the first disorder, he hoped to ascertain by future observation and experiments upon animals. Cholesterine was a product of the activity of the liver, and, like all biliary matters, not performed in the blood. But the study of the blood was nevertheless of importance, and he had himself made analysis of it in relation to the question of gall-stones.—(*London Lancet*, October 22, 1859.)

Editors' Table.

The Gold-headed Cane.—We shall not be accused of imputing to them a lack of biographical lore, if we suppose that a majority of our readers have never heard of a small volume, entitled "The Gold-headed Cane," which professes to be the reminiscences of this at one time constant accessory and companion of every physician, when in full costume, and going his professional rounds.

> "Physic of old, her entry made
> Beneath the immense full bottom's shade,
> While the gilt cane with solemn pride,
> To each sagacious nose applied,
> Seemed but a necessary prop,
> To bear the weight of wig at top."

The quondam editor, in a most commendably short prefatory "Notice," gives a clue to the brief history, by telling us: "A short time before the opening of the New College of Physicians, [London,] Mrs. Baillie presented to the learned body a Gold-headed Cane, which had been successively carried by Drs. Radcliffe, Mead, Askew, Pitcairn, and her own lamented husband. The arms of these celebrated physicians are engraved on the head of the Cane, and they form the vignettes of the five chapters into which this volume is divided."

The Cane begins its autobiography by saying, that "It was deposited in a corner closet of the Library, on the 24th of June, 1825, the day before the opening of the New College of Physicians, with the observation, that I was no longer to be carried about, but to be kept among the relics of that learned body." After having been closely connected with medicine for a century and a half, it was natural that the gold-headed cane, like other celebrities, should employ its leisure in recording the most striking scenes it had witnessed. "Of my early state and separate condition," says the narrator, "I have no recollection whatever; and it may reasonably enough be supposed, that it was not till after the acquisition of my head that I became conscious of existence and capable of observation." The first consultation at which the Cane was present, was when its master, Dr. Radcliffe, was sent for, in the autumn of 1689, by the king, William the Third, then living at Kensington House. "We were ushered in, through a suite of several rooms, plainly but handsomely furnished, by Simon de Brienne; and it seemed to me that the Doctor assumed a more lofty air, and walked with a firmer step, and I was conscious of a gentle pressure of his hand as he stopped and gazed for a moment on the likeness of the founder of the College of Physicians, Dr. Linacre, painted by Holbein, which was hanging in one of the rooms, among royal portraits of the Henrys, and several other of the kings and queens of England and Scotland.

"On entering the sick chamber, which was a small cabinet in the south-east angle of the building, called the

Writing Closet, a person of a grave and solemn aspect, apparently about forty years of age, of a thin and weak body, brown hair, and of middle stature, was seen sitting in an arm-chair, and breathing with great difficulty. The naturally serious character of the king (for it was his majesty, William the Third,) was rendered more melancholy by the distressing symptoms of asthma, the consequence of the dregs of the small-pox, that had fallen on his lungs." Dr. Radcliffe was not inclined to play the courtier on the occasion, and he addressed his royal patient in the following terms: "May it please your majesty, I must be plain with you, sir; your case is one of danger, no doubt, but if you will adhere to my prescriptions, I will engage to do you good. The rheum is dripping on your lungs, and will be of fatal consequence to you, unless it be otherwise diverted." The insinuation in the last remark was not complimentary to the king's body physicians, Bidloo and Laurence, nor was it in good taste nor conformable with good ethics. The indication to be fulfilled was to procure a flow of saliva, but by what means we are not informed. This, however, having been obtained, the king was entirely relieved, and "a few months afterwards he fought the battle of the Boyne."

Before leaving the palace, Dr. Radcliffe waited upon her majesty the queen, whose affability and cultivated mind are deservedly praised on the occasion. This estimable lady died five years afterwards of the small-pox —an incident which, by reminding us of the protection from this fatal and loathsome disease, afforded by vaccination, to both king and peasant, ought to make us proud of a profession which numbers a Jenner in its ranks. The death of his wife was keenly felt by the generally impassive king. Radcliffe, in a subsequent year, 1697, after the treaty of Ryswick, on being summoned to the royal presence, expressed himself with startling bluntness, by telling his patient that he must not be buoyed up with hopes that his malady would soon be driven away. "Your juices are all vitiated, your whole mass of blood corrupted, and the nutriment for the most part turned to water; but," added the Doctor, "if your majesty will forbear making long visits to the Earl of Bradford, (where, to tell the truth, the king was wont to drink very hard,) I'll engage to make you live three or four years longer; but beyond that time no physic can protract your majesty's existence." After an interval of three years, the king, while hunting, fell from his horse and broke his right clavicle, near the acromion. "This occurred in the neighborhood of Hampton Court; but the French surgeon Ronjat was at hand, and soon reduced the fracture. But when he wanted to bleed his majesty, a new obstacle arose, for it was necessary not only to have the sanction of some one of the court physicians, but also the authority of the privy council for the performance of this operation." Disregarding the recommendation of his professional advisers, that he should keep perfectly quiet, the king insisted on returning to Kensington; but on arriving there a new difficulty occurred, showing that royalty enjoys no special privileges over the commonalty, in exemption from the annoyances growing out of differences between doctors, on the score of diagnosis and of medical etiquette. A discussion arose between Bidloo and the surgeon, as to whether there had really been any fracture or not. "Ronjat strongly maintained the affirmative, the Dutch doctor as stoutly denied it. This point was at length settled, when a new difference of opinion occurred as to the mode of applying the bandages. Bidloo wished himself to apply them, but the surgeon said no. 'You are here either in the character of a physician or in that of a surgeon; if the former, you have nothing to do with bandages; if the latter, *c'est moi qui suis le premier chirurgeon du Roi.*' After the death of the king, a paper war took place, and the various arguments and statements advanced by each party were frequently mentioned in societies where I was present, for luckily my master had no share in these disputes." We pass over the remains of this digression, in which the character of King William is sketched, and an incident related of his eating up all the green peas, "then newly come in, without even once offering this rarity to his royal consort, or guest," her sister, the Princess Anne, afterwards queen.

To return to the eminent bearer of the gold-headed cane, Dr. Radcliffe, who was sorely tried in his first courtship and betrothal. The lady was an only child, rich, "and with a tolerable share of personal charms." "Matters seemed to proceed prosperously, and everything promised a consummation of my master's happiness; when, one evening, he returned late to his home, obviously much discomposed." One may well imagine his mortification, when we learn its cause, which was no less than a discovery that his betrothed had given her affections and her person to another man, of which fact she began to show proof beyond dispute. Well might the Doctor exclaim to himself: "Mrs. Mary is a very deserving gentlewoman, no doubt; but her father must pardon me if I think her by no means fit to be my wife, since she is or ought to be another man's already!" An occurrence of this nature was not adapted to the removal of Radcliffe's aversion to matrimony, although, later in life, at the maturer age of sixty, he did a wooing go. He is described as having an elevated forehead, hazel eyes, cheeks telling of the good cheer of former days; if anything, a little too ruddy; a double-chin, a well-formed nose, and a mouth round which generally played an agreeable smile. Fortunately for literature and science, toward the advancement of which he left such noble legacies, the lady did not smile on him. "Suffice it to say," says our gold-headed biographer, "he was lampooned, proved unfortunate in his suit, and was styled by the wicked wits of the day, 'the mourning Esculapius,' 'the languishing, hopeless lover of the divine Hebe, the emblem of youth and beauty.'" Prince Eugene, the friend of Marlborough, when on a visit to London, dined with Radcliffe, who determined that there should be "no ragouts, no kickshaws of France," but treating his guest as a soldier, he had his "table covered with barons of beef, jiggets of mutton, and legs of pork." A portrait of the Prince is drawn on the occasion. Reference is made here, for the first time, to Dr. Mead, who is introduced in the following dialogue. "He lived then in Austin Friars, and we found him, one morning, in his library reading Hippocrates.

"*Radcliffe* (taking up the volume of the venerable father of physic.) 'What! my young friend, do you read Hippocrates in the original? Well, take my word for it, when I am dead you will occupy the throne of physic in this great town.'

"*Mead.* 'No, sir; when you are gone, your empire, like Alexander's, will be divided among many successors.'" Mead had already written his treatise on Poison. Many rooms of his small house were filled with books, and the two doctors indulged in a long chat. Mead was very lively and entertaining, related several anecdotes of things which he had seen abroad; and described with great animation his joy in finding the *Tabula Isiaca*, in a lumber room, in Florence. "Upon this subject, my master asked many questions, and appeared much struck with the advantage of foreign travel to a physician."

Radcliffe encountered much ill-deserved odium for not joining Mead and the household physicians in visiting Queen Anne, in the last days of her fatal illness; and the death of the sovereign was laid to him. He was, however, unable to attend, being himself confined to his country-house, at Cashalton, in Surrey, by the gout, which had seized on his head and stomach. Soon after this time, as we read in the reminiscences of the Gold-headed Cane, he invited Mead to dine with him, and, after declaring his intention to withdraw himself from practice, he handed over to the latter the mute but valued companion in his daily rounds, and in a measure the medical sceptre itself. He gave, at the same time, a short sketch of his professional life. "My books," he says, "have always been few, though well chosen. When I was at the University, a few vials, a skeleton, and an herbal, chiefly formed my library." "I have always endeavored to discountenance the attempts of quacks and intermeddlers in physic, and by the help of Providence I have succeeded most wonderfully." He refers to his services at court, and the requital by the King, (William,) who, on one occasion, ordered him five hundred guineas (upwards of $2500) out of the privy purse, for the cures of Bentinck and Zulestein. By attendance on his majesty, Radcliffe "gained, one year with another, more than six hundred pounds ($3000) per annum." Dr. Gibbons was a lucky man in being the neighbor of Dr. Radcliffe, whose overflow of business, to which he was unable to attend, brought the former a thousand pounds a year. Speaking of his failing health, and the short time he has to live, the retiring chief says: "The time is, I am afraid, barely sufficient to repent me of the idle hours which I have spent in riotous living; for I now feel, in the pain which afflicts my nerves, that I am a martyr to excess, and am afraid that I have been an abettor and encourager of intemperance in others."

Dr. Radcliffe died November 1st, 1714. His eulogy may be written in a few lines. The figures in it are not those of rhetoric, nor of poetry; but they carry with them a fullness of thought, a farsightedness, a force, and an animation, more convincing and more enduring in their effects than the finest prize poem or oration. They have elevated science, expanded literature, imparted new hopes to the desponding, raised the sick and the infirm from the bed of suffering, and snatched many from the grasp of death itself. Radcliffe wrought all these wonders by his last will and testament. He left his Yorkshire estate to the Master and Fellows of University College, Oxford, forever, in trust for the foundation of two traveling fellowships, the overplus to be paid to them for the purposes of advowsons for the members of said college.

Five thousand pounds for the enlargement of the building of University

College, where he himself had been educated.

Forty thousand pounds ($200,000) for the building of a Library at Oxford.

Five hundred pounds yearly, forever, toward mending the diet of St. Bartholomew's Hospital.

After the payment of these bequests, and some legacies to various individuals mentioned in the will, he gave to his executors in trust, all his estates, in four counties, to be applied to such charitable purposes as they in their discretion should think best; but no part thereof to their own use or benefit. The result of this last bequest is seen in the Observatory and Public Infirmary at Oxford, both of which were erected out of the funds of Dr. Radcliffe's estate by the trustees of his will. The Radcliffe Library, which is, perhaps, the most beautiful building in Oxford, was finished in 1749. It has been appropriated by a resolution of the trustees to the reception of books on medicine and natural history. The streams of benevolence still flow in other and smaller channels from the sources kept open by the faithful and enlightened guardians of the Radcliffe estate-funds, in the exercise of the discretionary power with which they are intrusted.

MEDICAL STUDENTS IN PHILADELPHIA.—The number of medical students in this city, this winter, is considerably upwards of twelve hundred. We have no definite information of the size of the classes in other parts of the Union.

CHICAGO MEDICAL EXAMINER.—This is the name of a new medical periodical, just established by Dr. N. S. Davis, Professor in the Lind University, at Chicago, and Dr. E. A. Steele. It is to be issued monthly, and is to be devoted to the educational, scientific, and practical interests of the profession.

PROFESSOR VIRCHOW.—The vacancy occasioned in the French Academy of Sciences, by the death of Dr. Marshall Hall, has been filled by the appointment of the celebrated Berlin professor.

CHICAGO COLLEGE OF PHARMACY.—It is highly gratifying to the friends of progress and humanity to find that a college of pharmacy has recently been established in this flourishing city of the great Northwest. It is impossible, in view of the astonishing ignorance and carelessness of American apothecaries and druggists, that there should be too many institutions of this kind in the United States. We hope the day is not distant when every medicine dispenser shall be compelled to obtain a thorough professional education before he is permitted to enter upon his responsible avocation.

The Chicago College is to have a session of twenty weeks, a lecture being delivered every other day. The members of the faculty are James V. Z. Blaney, M.D., Professor of Chemistry; F. Scammon, M.D., Professor of Pharmacy; and John H. Rauch, M.D., Professor of Materia Medica.

MAINE MEDICAL SCHOOL.—Dr. Chas. A. Lee having resigned the chair of Materia Medica in this institution, Dr. Israel T. Dana has been elected in his place.

PHILADELPHIA LUNATIC ASYLUM, BLOCKLEY.—Dr. S. W. Butler, one of the editors of the Medical and Surgical Reporter, has been appointed resident physician to the lunatic department of the Philadelphia Hospital, at a salary of $1200 a year. The institution has upwards of 600 inmates.

NEW YORK COLLEGE OF VETERINARY SURGERY.—A college of this kind has recently been established in the City of New York, in an edifice specially erected for the purpose at the corner of Twenty-third Street and Sixth Avenue. It was chartered last winter by the Legislature, its projector being John Campbell Ralston, M.R.C.V.S., titles which we suppose mean Member of the Royal College of Veterinary Surgery of England. Mr. Ralston is Professor of the Theory and Practice of Veterinary Medicine; Mr. John Busteed, Professor of Anatomy and Surgery; and Dr. R. O. Doremus, Professor of Chemistry and Materia Medica.

We are rejoiced to find that the subject of Veterinary Medicine and Surgery is everywhere attracting the attention of the people of this country. There is no portion of the globe where there is so much need of well-regulated veterinary schools and hospitals as in the United States, for there is none where there is so much fine stock, and where so many noble animals daily die for the want of proper treatment.

ARMY AND NAVY DENTISTS.—There seems to be some prospect that the army and navy of the United States will soon be provided with educated dentists, the need of which has long been felt by both services. Dr. Maynard has, for some time past, urged the great importance of the subject upon the government; and it is said to have met with the favorable consideration both of the surgeon-general of the army and of the secretary of the navy.

AMERICAN MEDICAL ASSOCIATION.—We copy the subjoined resolutions, with the accompanying comments, from the November number of the *Cincinnati Lancet and Observer*, edited by Dr. Stephens and Dr. Murphy. They meet with our most hearty commendation. The sentiments which they breathe, and which are, in every respect, so just and proper, we have long contended for in the pages of the Review:—

"We have received the following resolutions, which were presented to the last meeting of the Illinois State Medical Society, and laid upon the table until its next annual session. We insert them with pleasure, and with but brief comment. It is certainly unfortunate that precedent has so far established the custom of selecting the President of our American Medical Association from the locality of its annual meeting; and this custom has been freely and fully commented upon by a large proportion of the medical press of the country—so freely, indeed, that we scarcely feel called upon, in this connection, to enter into any particular discussion of the question. It would seem that, when the annual meeting of the National Association convenes, the courtesy of the members becomes more enlarged than when in State conventions or sitting under editors' tables; and thus far the prevailing disposition has been to yield the presidency to the claims of the city whose hospitality is being enjoyed. Fortunately, thus far the gentlemen who have been elevated to that honorable position have not been such as to bring any discredit to the position of the association—a fact, however, which does not affect the argument.

"'*Whereas*, The American Medical Association is a national organization, composed of delegates and members from all parts of the United States, meeting on terms of perfect equality; therefore—

"'*Resolved*, That, in the opinion of this society, all the officers of the association should be selected strictly with reference to merit, and without any regard to their places of residence.

"'*Resolved*, That the custom of selecting the president of the association exclusively from the profession of the city in which the annual meeting is held, is not only derogatory to the general character of the organization, and calculated greatly to lessen the honor which should attach to that office, but past experience has shown that it leads directly to local divisions, jealousies, and injurious, partisan strife.

"'*Resolved*, That the delegates from this society to the association be, and are hereby instructed to use their influence to abrogate the custom alluded to in the preceding resolution.

"'*Resolved*, That the Secretary be directed to furnish copies of the foregoing resolutions to other State and local medical societies, and ask their attention to the same.'"

PRIZE QUESTIONS.—A prize of one hundred dollars is offered by the Société Medico-Pratique de Paris, for the best paper on the etiology, history, and treatment of Eczema. The statements of the author must be based upon numerous cases. The essays may be written in French or Latin, and must be sent to M. Martin, Hotel de Ville, Paris, before the 31st of December, 1861.

The Medical Society of Amsterdam offers a gold medal, of the value of thirty ducats, for the best essay on the physiology and pathology of Scoliosis. Special attention should be paid to the muscles capable of producing curvature, and to those which may be brought in antagonism with them, and effect a cure. The papers, which should be sent to Dr. J. W. K. Tilanus, of Amsterdam, before the 1st of May, 1861, may be written in any language.

EXODUS OF SOUTHERN MEDICAL STUDENTS.—For some time past much excitement has existed among some of the Southern medical students of this city, growing out, as has been alleged, of the Harper's Ferry movement. It had been vaguely rumored that a committee of thirty had been appointed early in the last month to obtain signatures to a pledge of secession; and on Tuesday morning, December twentieth, a final meeting was held at the Assembly Building rooms, preparatory to the exodus of the disaffected members of the classes of the different schools. The president of the meeting, we learn, was Mr. Lee, of Alabama, assisted by several vice-presidents and secretaries. Addresses were made on the occasion, among others, by Dr. F. E. Luckett and Dr. H. H. McGuire; and letters and telegraphic dispatches read from Governor Wise, of Virginia, and the deans of the medical colleges of Richmond, Charleston, Savannah, Augusta, New Orleans, and Nashville, tendering sympathy, and a cordial welcome to such secessionists as might feel inclined to resort to those institutions. The meeting is reported to have been conducted with great decorum. The time fixed upon for their departure from the city was Wednesday night, December twenty-first, with free passes provided by the Fredericksburg and Richmond Railroad, through Drs. Luckett and McGuire, over the whole route, and one thousand dollars, said to have been sent from Virginia, to defray incidental expenses.

The number of students that left has been variously estimated at from one to two hundred, a large majority of whom were matriculates of the Jefferson College. It is understood that they were joined at the depot by a small number of Southern students from the University of New York. The exodus was avowedly conducted by Dr. Luckett and Dr. McGuire, the former of whom had been intrusted with the railroad passes and the disbursement of the money. It is proper to add that these gentlemen had a large quizzing class, consisting of nearly two hundred Southern students, and generally known as the "Southern quizzing class." Of this class the great majority have left; and of the whole number of secessionists, one hundred, it is said, had previously been pledged to the medical college at Richmond.

The manner in which the secessionists were received at Richmond will appear by the following dispatch, copied from one of the daily journals of this city:—

Reception of the Southern Medical Students at Richmond, Va.

RICHMOND, VA., December 22.—The seceding medical students from Philadelphia arrived here to-day, and were received by the faculty and students of the medical college, the Governor's guard, and an immense throng of citizens. The procession marched to the Governor's mansion, where the students were addressed by Governor Wise, and afterwards by Professor Gibson, at the college. A dinner was then partaken of at the Columbia Hotel.

The students were received with great enthusiasm by our citizens, and as the procession passed through the streets the shouts of the men were deafening, while the ladies manifested their delight by the waving of their handkerchiefs.

The objects of the secessionists are best explained in the language of the preamble and resolutions adopted at the meeting at the Assembly Building rooms, on the twentieth instant:—

Whereas, We have left our homes and congregated in this city, with a view to prosecute our medical studies; and having become fully convinced that we have erred in taking this step; that our means should have been expended, and our protection afforded to the maintenance and advancement of institutions existing in our own sections, and fostered by our own people:—

Resolved, That in a body, or as many as approve of the act, we secede from the institutions in which we have severally matriculated, return to the South, and herein pledge ourselves to devote our future lives and best efforts to the protection of our common rights and the promotion of our common interests.

Resolved, That in taking this step, we disclaim any personal animosities, and deprecate any political agitation.

Resolved, That we tender our grateful acknowledgments and heartfelt thanks to the Hon. Henry A. Wise, Governor of Virginia; Dr. L. S. Joynes, Dean of the Virginia Medical College, at Richmond; Henry R. Frost, Dean of the Medical Department of the University of South Carolina; to President Robinson, of the Philadelphia, Wilmington, and Baltimore Railroad, and all others who have extended to us the substantial encouragement and aid so essential to the furtherance and successful accomplishment of our enterprise.

Resolved, That we extend a cordial invitation, and will cheerfully welcome in the South, any Northern student who will subscribe to the previous resolutions.

Resolved, That a copy of these proceedings be sent to all Northern medical colleges, for the benefit of Southern students who may have matriculated in them.

Resolved, That the Southern papers generally, be requested to publish the proceedings of this convention.

We have given the above statements of this proceeding as they have been communicated to us, as matters of interest to the medical profession of the United States in all time to come. As faithful journalists it is our duty to chronicle the event, and to express our profound regret at its occurrence. Various rumors are afloat in this city, both in the profession and in the community generally, as to the origin of this movement and those who played the chief part in its execution; but as we ourselves have no authentic data to guide us, we shall, for the present, forbear from any further comments.

A DISCOURSE COMMEMORATIVE OF THE LIFE OF PROFESSOR T. D. MUTTER, M.D., LL.D. By PROFESSOR PAN-

COAST, M.D. Philadelphia, 1859.—The discourse of Professor Pancoast will be read with great pleasure by the numerous friends and admirers of his late colleague, Dr. Mütter, who was so long one of the ornaments of the Jefferson Medical College and of the American medical profession. It was delivered as an introductory lecture on the fourteenth of October, and was published at the request of the class, one of the largest ever assembled within the walls of any medical institution. The excellent sketch of the life of Dr. Mütter, in the May number of the Review, prepared by one of his old pupils, precludes the necessity of any particular notice of Professor Pancoast's discourse.

Dr. Mütter died before he had attained the age of fifty; excessive labor, and a naturally delicate constitution, had made him prematurely old. His descent, by the father's side, was German, by the mother's, Scotch. He was early left an orphan; and, after having been a pupil at Hampden Sydney College in Virginia, he studied medicine with Dr. Simms, of Alexandria, graduating at the University of Pennsylvania in 1831. His subsequent career as a brilliant lecturer and operative surgeon is too well known to require any comments. He has left no substantial record of his experience; and his fame will be best perpetuated by his munificent bequest to the College of Physicians of Philadelphia, consisting of his museum, and of $30,000 in money for the endowment of a "surgical lectureship."

We close this brief notice with the following extracts from Professor Pancoast's discourse:—

"The first impression made by his presence was, throughout his career, always favorable. His manners were attractive, without being obsequious or abrupt, and the qualities of his heart were such as to secure him many lasting friendships. As a lecturer, his voice was clear and sonorous, and his gesticulation expressive and graceful. His fancy was full and free, and, in its brilliant play, was sometimes hard to govern. He had a desire for the possession of personal influence and position, which less ardent and more philosophic minds might deem excessive. These advantages were not coveted by him, however, for personal aggrandizement solely, but rather that he might be able to promote the interests of those who were dependent upon him or courted his support.

"The love of approbation—an aliment which seemed necessary to his sensitive nature—fed largely from his surgical successes, attached him more fondly to his avocation; made it almost the last object of his thoughts, and caused him, for the benefit of the profession and the perpetuation of his memory, to present to the College of Physicians of this city his valuable private surgical cabinet, to serve as the basis of a museum, to be called 'The Mütter Museum, founded by Thomas Dent Mütter, A.D. 1858.' A portion of his property, amounting to thirty thousand dollars, has been placed in the hands of trustees for its maintenance, and for the endowment of a lectureship on surgical pathology, and the payment of a curator. Thus, in dying, has he left a precious heritage to the profession.

"For myself especially, who lived so long in his gentle intimacy, his professional merits, great as they were, are not those which swim highest on the sea of thought. It is rather the sweetness of his character which I love most to recall; the kindness of his heart, which seldom allowed, even toward his enemies, an act of just retaliation to escape him, and I believe his colleagues, in musing over his name, will have their feelings mellowed by a similar sort of retrospection.

"Such, gentlemen, was the surgeon whom the science has lost. Such the professor, full of kindness and knowledge, whom his classes have mourned. Such the friend and colleague, torn from us in the meridian of his existence, whose memory and name we shall ever cherish."

NECROLOGICAL NOTICES.

DIED, recently, at Abbeville, South Carolina, Dr. J. P. BARRET, an eminent practitioner, and a gentleman of great moral worth. His disease was cancer of the stomach, under which he had suffered long and severely. He was a valued contributor to our periodical literature, especially to the *Charleston Medical and Surgical Journal*, and was at one time President of the South Carolina State Medical Association.

CHARLES GARDINER GUTHRIE died at London during the early part of last autumn, at the age of forty-two. He was a son of the late Mr. James Guthrie, the celebrated army surgeon, and had long held the post of lecturer on surgery at the Westminster Hospital. He was the author of several learned papers on ophthalmic medicine and surgery, and of an able treatise on cataract.

The death of DR. THOMAS NUTTALL, so well known by his Genera of North American Plants and the Birds of the United States, took place at his residence, Nutgrove, St. Helena, Lancashire, on the tenth of September. A native of Yorkshire, he was raised as a printer, and emigrated to this country toward the close of the last century. He had attained the age of seventy-three years.

DR. GILLETTE, a highly respectable practitioner, physician to the Hospital for Sick Children, and to the Louis le Grand College at Paris, lately died of diphtheria, contracted, as was supposed, while in attendance upon a child suffering under that disease.

BARON PHILIPPE BOYER died recently at Paris, from invagination of the bowel. He was one of the surgeons of the Hôtel-Dieu, an adjunct professor of the faculty of medicine, an officer of the Legion of Honor, and the editor of a new edition of his father's great work, "Traité des Maladies Chirurgicales," the seventh and last volume of which was published in 1853.

DR. HENFREY, the learned Professor of Botany in King's College, London, died on the seventh of September, in the thirty-ninth year of his age. He was the author of several works on the vegetable kingdom.

DR. GEORGE REGNOLDI, Professor of Surgery in the University of Florence, died recently, after having acquired a world-wide reputation as a teacher and a skillful operator.

DUBLIN has lately lost one of its oldest and most respectable practitioners in the death of DR. FRANCIS BARKER, Professor of Chemistry in Trinity College. He was distinguished for his courtly manners and his sound knowledge, combined with great simplicity of character.

Bi-Monthly Bibliographical Record.

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THE

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

MARCH, 1860.

Analytical and Critical Reviews.

Art. I.—*American Medical Biography, etc. etc.* To which is prefixed a Succinct History of Medical Science in the United States, from the First Settlement of the Country. By James Thacher, M.D. Boston, 1828.

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Address to the Medical Graduates of the University of Pennsylvania, delivered March 26, 1835. By George B. Wood, M.D., Professor of Materia Medica and Pharmacy in the University. 1836.

General Catalogue of the Medical Graduates of the University of Pennsylvania, with an Historical Sketch of the Origin, Progress, and Recent State of the Medical Department. Third edition. 1845.

Philadelphia and her Medical Schools. [Seven Articles in the Philadelphia North American and United States Gazette, September 6th,—October 22d, 1856.]

An Exposition of the Laws which relate to the Medical Profession in England, etc. etc. By John Davies, M.D. London, 1844.

Abandoning, for the nonce, our office of critic, that we may take the more grateful one of historian, we propose to deduce, from the materials found in the productions whose titles head this article, a narrative of the origin and present means of medical instruction in Philadelphia. The first medical school in the then British colonies, which in a few years after became the United States of North America, was established in this city. This event, followed after a short period the founding of the Pennsylvania Hospital, also the first institution, in point of date, of the kind. These, compared with analogous undertakings in other places—New York and Boston for example—would, on account of their prior origin, give some advantage in the competitive struggle for subsequent advance and distinction. But the vantage ground uninterruptedly maintained by Philadelphia, and more conspicuous at the present than at any former period, must be explained by the admission of other causes than of greater age. Not a little is owing to the impetus and direction imparted to the first medical school by its founders, those who were at the same time charged with its early guidance. The plan was not thrown off at a single heat: it was the result of much previous thought and reflection. Nor was the construction hurried, like an extempore palace of ice, to gratify imperial whim, but it was gradually completed in proportion as fitting material presented itself. The men had undergone a training to prepare and strengthen themselves for the work, and some of them early volunteered their services and waited for reinforcement from others of their own kind to carry it out. But opportunity, made up of time, place, and certain associated circumstances, must concur with the best devised schemes and most earnest intentions, in order to insure success. In the present case, there was not only the encouraging support of men of good general scholarship, but, also, of well-educated and well-read physicians, in Philadelphia, who, having themselves experienced the great benefits from attendance on medical schools abroad would rejoice to see an institution of the same character at home, even though they might not be inclined to take the initiative in its creation. Among the elements of continued success, it would be wrong to deny, even if we were so inclined, the favoring influence of the City of Philadelphia itself, compounded of geographical position and the character of its inhabitants, on the young men who come here from all parts of the Union, to fill the lecture-rooms of our medical schools. The numerous specific aids and appliances for instruction in both the science and the practice of medicine in this city are not, by any means, peculiar to it; but by a combination of circumstances, to some, perhaps the chief of which we have adverted, they have been more efficient for the purposes intended than in other places in which numbers, talents, and zeal also exist.

A preliminary notice of the earliest associations in England to regulate the practice of medicine will serve to suggest a feeling of gratitude for our escape from many of the evils and abuses under which the people of that country long suffered, an escape attributable to the wisdom and forethought of the founders of the medical schools, first in Philadelphia and New York, and not very long after in Boston.

A few words on the origin of medical colleges in the Old World will not come amiss, as an introduction to our immediate theme. The term college, (*collegium,*) in its primary sense a collection or assembly, conveys no definite idea of the character or pursuits of the persons who compose it, nor of the objects which they propose to themselves in their collective capacity. College, in a particular sense, signifies an assembly for a political, ecclesiastical, or medical purpose, as well as a society of persons engaged in the pursuits of literature, including officers and students. A number of colleges, of separate origin and endowment, and with each its own government, may constitute a university, as in the cases of Oxford and Cambridge, in England. In ancient Rome there were the *collegium pontificum, augurum, septemvirorum,* etc.; and in the modern city there is the College of Cardinals. Germany has a college of electors, and Russia imperial colleges, composed of councils of state, courts or assemblies, intrusted with the administration of the government.*

So far as we can learn, a medical college is a modern institution, which had its origin at the same time with that of universities. Of these, the University of Paris takes precedence in the order of time—the early part of the twelfth century—and in the fame of its professors and the crowds of its students, who, in a spirit of hyperbole, were represented to be more numerous than the citizens. As a school of law the University of Bologna may perhaps lay claim to an earlier origin, as it could afterwards boast of thousands of students in regular attendance in its halls. That of Montpelier acquired early celebrity by its medical school. We ought to speak of the School of Salernum, which was the nursery of medicine for modern Europe, as being of a collegiate character, but we lack the requisite details of its precise organization. We find the more difficulty in investigations of this nature from the double meaning which has been attached to a college, as a corporate medical institution. There are, in fact, two kinds of medical colleges; the one for instructing tyros in the different branches of medicine according to a curriculum duly announced, and for conferring the degree of doctor of medicine and the right of practicing it as a profession on those who have gone through the prescribed course of study, and acquitted themselves satisfactorily in examinations held by the different professors. These latter, in their collective capacity, constitute a "Faculty," which, together with the faculties of theology, law, and the arts, were the first, as they have continued, in most instances, to be the congregate to make up a university. The first organization of faculties took place in Paris, in the year 1259 and 1260,—the teachers of medicine in the latter year following the example set them in this respect by the union of the mendicant orders and secular clergy, who formed themselves into a sort of corporation of teachers of theology. The same course was pursued by the teachers of canon law. The first colleges in the universities were those in the buildings of which students, especially poor ones, might live together, under superintendence, without paying for their lodging. In some cases they received also their board gratis, or had still further allowances.

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* Encyclopedia Americana.

Contemporaneous with the establishment of universities was the origin of the title of doctor. It was first conferred at the celebrated law school of the University of Bologna, some time between the years 1128 and 1137, and when Irnerius (Werner) began to give prelections in law. It was at his persuasion, as chancellor, that the Emperor Lothario II. was induced to introduce the dignity of doctor. From the faculty of law this title passed to that of theology. The faculty in Paris first conferred the degree of doctor of divinity on Peter Lombard, who in 1159 became Bishop of Paris. Some time elapsed before the third faculty, or that of medicine, thought of granting the doctorate; and it was not until 1329, that William Gordenio, of the college at Asti, in Piedmont, was promoted to the dignity of *doctor artium et medicinæ.* The doctorate of philosophy was established last, because the faculty of philosophy was founded the latest. This title, common enough in the universities of Germany, is not known in those of Great Britain or of the United States. As regards the precedence or rank, on the continent of Europe, it runs in the following order—doctor of theology, of law, of medicine, and of philosophy; but in England and the United States, the doctor of laws ranks first, and the doctor of divinity next. The degree of *doctor of music* is conferred at the Universities of Oxford and Cambridge. Haydn received the title from the first of these institutions.*

Having briefly noticed, of the two kinds of colleges of medicine, that one which prepares, by methodical instruction, those who come within its walls, for engaging in the active duties of the profession, we have next to advert to that other kind which consists of an association of physicians with corporate powers, who prescribe the qualifications for admission into their body, and, in some instances, test the fitness of candidates by an examination. Among the privileges of such a college is that of granting liberty of practicing physic to its members alone, or to graduates of certain specified educational colleges of medicine, or of universities of which these institutions form a component part. The most ancient and a still vigorous and powerful institution of this kind is the College of Physicians of London, which was chartered in the tenth year of the reign of Henry VIII., (1519.) The necessity of a controlling and governing body for the encouragement and protection of the regular practice of physic had long been keenly felt in England. We subjoin, in a foot-note,* a curious document, in the shape of a petition to

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* Op. cit.

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* STATUTE.

9 HEN. V.

[*Cited by Sir Wm. Browne, in his Vindication of the College of Physicians.* Quarto, London, 1753.]

Ex Bundello petitionum de an^o, 9^0 H. 5, in Parliamento.

Hey and most mighty prince, noble and worthy lords, spirituelx and temporelx, and worshipfull communes, for so moche as a man hath three things to governe, that is to say soule, body, and worldly goods, the which ought and shulde ben principaly reweled by thre Sciences, that ben divinitie, fisyk, and lawe, the soule by divinitie, the body by fisyk, worldly goods by lawe, and those conynges should be used and practised principally by the most connyng men in the same sciences, and most approved in cases necessaries to encrese of virtue, long life, and gouds of fortune, to the worship of God and comyn profit. But worthi soveraines hit is known to your hey discretion, many uncunning and unaproved in the aforesaid science practiseth, and specialy in fysyk, so that in this realme is every man, be he never so lewed, taking upon him practice y suffered to use it to grete harm and slaughtre of many men, where if no men practiced therein but al only connyng men and approved sufficiently y learned in art, filosofye, and fysyk, as it is kept in other londes and roilmes, then should many man that dyeth for defaute of helpe lyve, and no man perish by unconning. Wherefore pleseth to your exellents wysdomes that ought, after your soule have no entendance to youre body for the causes abovesaid, to ordaine and make in statute perpetually to be strictly y used and kept. That no man of no manner, estate, degre, or condition, practise in fysyk fro this time forward bot he have long time y used the scoles of fysyk, having letters testimonialx sufficianty of on of those degrees in the universite in which he took his degree in, under payne of long impresonement and paying XL lb. to the king, and that no woman use the practice of fysyk under the same payne, and that the sherrifs of every shire make enquisiteon in their tournes if there be any that forfaiteth agens this statuit under a payne reasonable, and thenne that they put this statute in execution without any favoure under the same payne; also lest that they the which ben able to practise in fisyk ben excluded fro practise, the which be not graduated. Pleseth to your hey prudency to send writtes to all the sherrifs of England that, every practysour in fisyk not graduated in the same science, that wole practise forth be wythin on of the universities of this lond by a certain day, that they that ben able move aftre true and straight examination be received to their degree, and that they that be not able to cese fro the practise into the time they ben able and approved, or for to never more entermete thereof, and that herto also be y set a peyne convenient.

Dorso,

Responsio hujus petitionis patet in rotulo parliamento dat 2, die maij. anno regni regis Henr. 5ti., post conquestum nono.

Rot. Parl. 9, H. 5, p. 1, No. 11.

King Henry V. and to the lords spiritual and temporal, and the commons, in parliament assembled, (1321,) setting forth the evils complained of, and pointing out the remedy. Women figure early among the irregular practitioners whom it is the object of the petition to restrain. The functions of the three faculties of divinity, law, and physic, are quaintly and curtly told in the petition.* We retain the orthography of the original, as we find it copied into Paris and Fonblanque's Medical Jurisprudence, (vol. iii., appendix.) Following it, in that work, is an ordinance in Norman-French, issued in the same reign, against interlopers in surgery and physic.† It is a literary curiosity, as showing that, at the very time when France was almost entirely subjugated by an English king, Henry V., this prince sent forth an official rescript in the language of his remote ancestor, William the Conqueror, the use of which was continued in the pleadings and decisions of courts of law to the middle of the fourteenth century; thus perpetually reminding the people of England of their being ruled by a dynasty of foreign origin.

Before the act of incorporation of the College of Physicians of London, one of a preliminary character had been passed in the eighth year of the reign of Henry VIII., in which it was enacted that no person within the City of London, nor within seven miles of the same, shall "take upon him to exercise and occupy as a physician or surgeon, except he be first examined, approved and admitted by the bishop of London, or by the dean of St. Paul's, for the time being, calling to him or them four doctors of physic, and for surgery other expert persons in that faculty—under pain of forfeiture by those not so admitted for every month they do occupy as physicians or surgeons." It was further enacted "that no person out of the said city and precinct of seven miles of the same, except he have been (as is aforesaid) approved on the same, take upon him to exercise and occupy, as a physician or surgeon, in any diocese within this realm; but if he be first examined and approved by the bishop of the same diocese, or he being out of the diocese by his vicar-general, either of them calling to them such expert person, in the same faculties, as their discretion shall think convenient." A provision was expressly made, that nothing in this act should be to the prejudice of the Universities of Oxford and Cambridge, or either of them, or of any privileges granted to them.

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* In the words "conynges" and "connyng," and "lewed,"we find examples of the change of meaning gradually wrought in the English language. Cunning is here used in the sense of knowledge and skill—an honorable acceptation of it admitted centuries later in the authorized version of the Book of Chronicles, xxv. 3. Lewed in the petition means ignorant.

† Lordinance encontre les entremettours de fysyk et de Surgerie.

The petitioners to the king and parliament for statutory regulations of the practice of medicine, complain "forasmuch as the science and cunning of physick and surgery (to the perfect knowledge whereof be requisite both great learning and experience) is daily within this realm exercised by a great multitude of ignorant persons, of whom the great part have no manner of insight in the same, nor in any other kind of learning; some also can no letters on the book, so far forth, that common artificers, as smiths, weavers, and women, boldly and accustomally take upon them great cures, and things of great difficulty, in the which they purely use sorcery and witchcraft, partly apply such medicine to the disease as be very noious, and nothing meet, therefore, to the high displeasure of God, great infamy of the faculty, and grievous hurt, damage, and destruction of many of the king's liege people, most especially of them that cannot discern the uncunning from the cunning." The grievances complained of were no doubt very great, but much cannot be said in favor of the language or the manner in which they were set forth by the petitioners. Little influence of a beneficial kind would seem to have been exerted on the practice of medicine in England by the Universities of Oxford and Cambridge,—whether from the smallness of the number or the practical deficiencies of the graduates whom they sent forth, does not appear. The teachings in these institutions were of necessity confined to scholastic lore, to the neglect of anatomy and clinical medicine, for acquiring a knowledge of which no opportunities could be offered in towns of the limited population of Oxford and Cambridge. Even at the present day, the same wants are felt and nearly the same deficiencies exist in these places. Stronger language can hardly be used than that of two English writers* in the following sentence: "And with respect to the study and practice of physic, it seems probable that, until after the formation of the College of Physicians, it had not even assumed the character and dignity of a regular profession, for we find that the very few learned men in that branch, which the annals of the period can furnish, had acquired their knowledge in the foreign universities."

The college is authorized by its charter to hold meetings and make by-laws, not only for its own good government, superintendence and correction, but also for those of all persons exercising the faculty in the city or within seven miles thereof. The exercise of the practice of physic within the same limits was allowed only to those who had been admitted by the president and college, through letters under their common seal. A penalty of five pounds every month was incurred by any undeserved person who continued to practice. By a subsequent act it was decreed that no person from henceforth be suffered to exercise or practice in physic through England until such time as he be examined at London, by the said president and three of the elects,* "except he be a graduate of Oxford or Cambridge, which hath accomplished all things for his form without any grace." The charter further directs that the president and college should, every year, elect four censors, who shall have the superintendence, correction and government of all persons exercising the faculty of medicine in any manner in the city, or within seven miles thereof, with powers to punish for malpractice, and to exercise superintendence and scrutiny of all medicines, and their administration, provided that the punishment should be by fines, amercements, imprisonment, and other reasonable modes. Immunity is given to the president and fellows of the college and their successors, from summons to assizes, juries, inquests, attaints, *et aliis recognitionibus*, by the mayor, sheriffs, or coroners of the city, even by the king's writ. By another act, the members of the college are discharged from keeping watch and ward in the city or its suburbs, and they shall not be chosen to the office of constable or any other office within the same limits. The censors are empowered to enter the houses of apothecaries in the city for the purpose *only* of searching and viewing their wares, drugs, and stuffs, and if any be found defective or corrupted, they may cause them to be burnt, or otherwise destroyed, and a penalty of five pounds, to be recovered by any that will sue for it, is inflicted on apothecaries who obstinately or willfully refuse or deny the four censors to enter into their houses.

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* Paris and Fonblanque, Medical Jurisprudence, vol. i., p. 1.

There was an important recognition that surgery is included in the science and practice of physic, and hence any member of the college is authorized "to practice and exercise the said science of physic in all and every his members and parts." The candidate must not be less than twenty-six years of age, and must have devoted at least five years to the study of medicine.

A few lines are due to the class of surgeons at this time, and of the difficulties which those of a strictly professional character and attainments had to detach their order from those who had acquired a legal right to thrust themselves into their company. It would seem from the early charters and acts of parliament referred to by Dr. Davies, in his *Exposition*, that there existed in London three classes of surgeons: First, physician-surgeons, or those who practiced medicine and surgery conjointly, and who were, for the most part, graduates of some university. Second, barber-surgeons, who did business in surgery in conjunction with barbery. Third, persons who practiced surgery as a distinct art, and who were generally "foreigners," or persons who had been admitted to the freedom of the city. The barbers enjoyed the privilege of incorporation long before the regular surgeons had obtained any advantage of this nature. As early as the first year of the reign of Edward IV. (1461,) "the freemen of the mystery of barbers of the City of London, using the mystery or faculty of surgery," were incorporated into one perpetual community. The functions of this class did not extend beyond "the curing and healing wounds, blows, and other infirmities, as in the letting of blood and drawing of teeth," etc. By an act of the thirty-second year of Henry VIII., the two classes, surgeons and barber-surgeons, were incorporated into one body politic. Up to this time the surgeons had no corporate powers, and were only known as "The Surgeons of London." The title of the new association was "Masters or Governors of the Mystery and Commonalty of Barbers and Surgeons of London." But although the barbers take precedence in the title of the united company, their right to practice surgery is absolutely abolished, if we except the single operation of drawing teeth. This enforced union lasted down to the eighteenth year of the reign of George II. (1745,) when, by act of parliament, the surgeons were released, and obtained a separate charter. Fifty-five years from this time, or in 1800, a charter was granted in the fortieth year of the reign of George III., constituting the surgeons into a college, "by the name of the Royal College of Surgeons in London." In the seventh year of the reign of the present sovereign, Queen Victoria, (1843,) the corporation has had its title changed into that of "The Royal College of Surgeons of England." Similar privileges and powers are enjoyed by the Colleges of Surgeons of Edinburgh and of Dublin. Four years (it was originally six) of study are required of candidates for membership of the College of Surgeons. It gives, of itself, no instruction, nor does it prescribe where this is to be obtained.

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* The elects consisted of the six persons mentioned in the acts of incorporation, to whom two were subsequently added, to make the number eight. They fill up their own vacancies, and out of their number the president is elected.

The affinity between apothecaries and grocers is not very obvious, although it existed for more than a century in England before the union of the two trades, as they were then regarded, was effected by an act of incorporation in the fourth year of the reign of James I. (1607.) During the period mentioned, in the metropolis, as it is in some rural districts at the present day, and as we have seen it in our own city, the same persons dealt partly in groceries and partly in drugs; but in process of time it became worth their while to give up their whole attention to the pharmaceutical art. In this way a separate class of tradesmen was formed. The union of the stem and offshoots into one body corporate did not, however, last more than nine years, and another charter, giving the apothecaries an independent existence, was granted, partly at the instance of the physicians. This charter was obtained ninety-five years after the establishment of the College of Physicians. The incorporators were associated under the name of the "Master, Wardens, and Society of the Art and Mystery of Apothecaries of the City of London." The conditions on which any person from this time was allowed to keep or furnish an apothecary shop, or to exercise the art or mystery of an apothecary within the limits of the City of London and seven miles beyond it, were, that he should have served *seven years at least* as an apprentice to an apothecary exercising the same art and being free of the same mystery; and after the expiration of this period shall have submitted himself to an examination before a board composed of the master and wardens, assisted by the president of the College of Physicians, or some physician or physicians named by him. By an amended act, passed in 1815, the company is empowered to appoint persons, not less than two in number, who may enter and search any apothecary's shop, "in any part of England or Wales," and destroy any improper drugs or other things belonging to the business of an apothecary they may find therein. The period of apprenticeship was reduced to five years.

Although the title of college is not applied, but only "Society," to the incorporation of apothecaries, yet it so happens that, of the three great incorporated associations of which we have spoken, the last is the only one which lays down a curriculum of medical education for the guidance of its students. We did not deem it necessary to speak of the gradual encroachment by the apothecaries on the regular physicians, in themselves dispensing medicine and prescribing for and visiting the sick. A long contest between the parties was carried on, which ended by judicial decision in favor of the apothecaries. A more animated strife was afterwards engaged in between the latter and the chemists and druggists, now called "pharmaceutists," who, treading on the heels of the apothecaries, at length succeeded in being permitted, if not formally authorized, to dispense the prescriptions of physicians. In addition to the candidate for practicing as an apothecary being required to give testimonials of his having served an apprenticeship of not less than *five years* to an apothecary,* and of his having attained the age of twenty-one years and being of good moral conduct, he must have followed a course of medical study during not less than three winter and two summer sessions; the winter session being understood to extend from the first of October to the middle of April, with a recess of fourteen days at Christmas; and the summer session from the first of May to the thirty-first of July. The branches on which lectures are to be attended are, chemistry, anatomy and physiology, materia medica and therapeutics, botany, anatomical demonstrations, dissections, principles and practice of medicine, forensic medicine. Two courses of sixty lectures each, on midwifery and the diseases of women and children, are to be followed in separate sessions; practical midwifery at any time after the conclusion of the first course of midwifery lectures. The student must attend medical practice during the full term of eighteen months; the first twelve months, that is, from the commencement of the second winter session to the commencement of the third winter session, at a recognized hospital, and the remaining six months either at a recognized hospital or a recognized dispensary.

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* The original charter must have been modified in this particular.

In the northern part of the island (Scotland) the Universities of Glasgow and Edinburgh, the former of which was the much older institution, had their respective medical colleges; but until the middle of the last century they did not exert much influence on either teaching the science or establishing the ethics of medicine. We may soon have to advert to the origin and brilliant career of the school of medicine of Edinburgh. The colleges at Aberdeen until recently had a very questionable, we ought rather to say a bad, name for the reprehensible facility of conferring medical degrees on nearly all applicants who paid for them. An amended state of things, we believe, now exists there.

Were it a part of our design to give the history of medical institutions in Great Britain, we should deem it necessary to state the circumstances under which the London University, afterwards called the "University College," and the "King's College," in the same city, were organized, as well as to make some mention of the existing provincial schools, and of associations formed in connection with the different hospitals in the metropolis. But what we have said thus far, is only intended as an introduction to a notice of the collegiate foundations in medicine, and the means for acquiring a knowledge of its different branches in our own country. Unable as we are, however, at this time to speak of all that has been done, in this line, in different parts of North America, we shall restrict ourselves mainly to a sketch of the origin and progress of the medical institutions of the City of Philadelphia. For what relates to the physicians whose names appear in the early colonial records, we shall be chiefly indebted to the "History of Medicine in the United States," which serves as an introduction to "Thacher's Medical Biography."

With the first colonists and settlers along the Atlantic seaboard, from Massachusetts Bay to Georgia, there came medical men, incited by feelings similar to those which led to the emigration of their countrymen; and we may suppose in many instances by the desire of accompanying their neighbors, friends, and portions of their own immediate families. They brought with them a fair share of the learning and practical knowledge of the time, such as was attainable by the aid of the different medical institutions of which we have just spoken. Some had availed themselves of the opportunities of travel and of study in celebrated schools on the continent of Europe. There were others, again, who appeared in the double capacity of divines and physicians, and made themselves acceptable in both. This union of medicine and theology has ever been common in the earlier and primitive stages of society, in which religious faith and practices precede a knowledge of science and disquisitions on philosophy, and in which they who have the care of souls are called upon to administer to the relief of ills which torment the body. Considerations of a personal nature led some of the non-conforming clergymen, under the fear of ejectment from their livings and the loss of means of support, to prepare themselves for the medical profession as a resource in a day of need. It was not uncommon, apart from any ulterior view of this kind, for students of divinity to read the medical classics and acquire some familiarity with the writings of Hippocrates, Galen, Celsus, etc. When men thus learned came to form pastoral relations with the people of the colonies, they soon discovered that their small congregations were unable to give them a salary equal to their immediate wants; and hence they were fain to add a secular to their ministerial calling. Some taught school, others devoted a part of their time to the practice of medicine.

The sickness with which the first settlers at Plymouth were attacked, soon after their landing, called into early requisition the services of those among them who were endowed with powers of healing and cure. The first physician of whom we have any knowledge, at this period, was Dr. Samuel Fuller, who was one of the company that came over in the first ship, and was, moreover, a deacon in the Rev. John Robinson's church. These zealous and sturdy Puritans, sticklers for the greatest latitude of creed and action in England, and intolerant of the like freedom to those who differed from them in their new homes, lost no time in laying the foundations of a literary institution for the promotion of learning. Only twenty-two years had elapsed from the date of their first landing on a bleak, inhospitable coast, to the holding of a commencement (1642) at the nascent Harvard College, in which Samuel Bellingham and Henry Sallonstall were graduated in the faculty of arts. These gentlemen were afterwards honored with the degree of M.D. at European universities. Leonard Hoar was graduated at Cambridge in 1650, and repaired to England, where he studied medicine. Never, we believe, has a single family furnished as many disciples of Hippocrates as Charles Chauncy, president of Harvard College in 1652. This gentleman received a medical education in England, and had six sons educated at Harvard College, all of whom studied medicine; and, according to the testimony of Dr. Mather, were, in resemblance of their father, eminent physicians. Among those who were both preachers and physicians, mention may be made of Drs. John Fisk, Nathaniel Williams, and Thomas Thacher. The title of surgeon-general, and captain, too, was borne by Matthew Fuller, in the Provincial forces raised in Plymouth Colony, in 1673.

Among the physicians who lived in the early period of English settlement in New York were Drs. Dupey, Dubois, and Nicoll. Cadwallader Colden, Lieutenant-Governor of the Province, was a distinguished physician, and published his opinions on the best method of treating a malignant fever which was very destructive in the city in 1741. Dr. John Bard, whose professional career extended over nearly half a century, wrote an interesting account of a malignant pleurisy which had prevailed in Long Island in 1749, besides some other papers on medical subjects. The first example of dissection for anatomical instruction in the colonies was that of a man who was executed for murder, in 1750. The autopsy was made by Drs. John Bard and Peter Middleton.

Drawing from the same work* which has furnished us with the accounts of the first physicians in Massachusetts and New York, we learn that "in the latter part of the seventeenth and early part of the eighteenth century many learned and enterprising medical men emigrated from Europe, and established themselves in Pennsylvania." Among these we may mention Dr. Thomas Wynn, an eminent Welsh physician, who, after practicing with much reputation in London, came to this country in 1682, with the original settlers. He was accompanied by his brother, who was also a medical man. Contemporary with these gentlemen was Dr. Griffith Owen, who took the lead in the practice of the profession. His death occurred in 1717, the same year in which Dr. Graeme arrived from England, in the company of the governor, Sir William Keith. Dr. Lloyd Zachary, who died in the prime of life, deserves special notice, as one of the founders of the Philadelphia College and of the Pennsylvania Hospital, and a contributor to both. Dr. John Kearsley, known both as physician and surgeon, endowed a hospital for poor widows, and was chiefly instrumental in the erection of Christ Church, Philadelphia. He was the preceptor of Dr. John Redman and Dr. John Bard, of New York. One of the earliest publications on a medical subject, which had yet appeared in Philadelphia, was an essay on the iliac passion, written in 1740, by Dr. Thomas Cadwallader.

Dr. Redman was a graduate of the school of Leyden, at a time when the celebrated Gaubius, the successor and pupil of the still more celebrated

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* Dr. Thacher's.

Boerhaave, and Albinus were among its professors. He was the first president of the College of Physicians of Philadelphia. Contemporary with Redman were the two Bonds, (Thomas and his brother Phineas,) Cadwallader, and Evans. Dr. Thomas Bond was a native of Maryland; he traveled in Europe, and spent a considerable time in Paris, where he attended the practice of the great hospital, the Hôtel-Dieu. He began his professional career in Philadelphia in 1734; and he may be regarded as the first to acquire distinction in surgery in that city. He has the credit of having originated the idea of the Pennsylvania Hospital, and he was one of the founders of the College of Philadelphia, and the Academy. Dr. Bond, in connection with Franklin, contributed to give form and a name to the American Philosophical Society. Dr. Phineas Bond shares with his older brother Thomas, and with Thomas Hopkinson, the honor of founding the college which was the precursor of the University of Pennsylvania. This gentleman, who had passed a considerable time abroad, and visited Leyden, Paris, Edinburgh, and London, is represented to have been well qualified to judge correctly of any undertaking for the improvement of the medical character of his country. Dr. Thomas Cadwallader was also imbued with the medical lore acquired by study in Europe. His relations to the Hospital, College, and Philosophical Society, especially as one of the physicians of the first-mentioned institution during the long period of thirty years, evince his expanded benevolence and the weight of his professional and literary character in Philadelphia.

A marked event, not more in the history of the benevolent than in that of the medical institutions of Philadelphia, was the foundation of the Pennsyvania Hospital. The initiative in this measure was taken, we have seen, by Dr. Thomas Bond, who was soon and ably seconded in his philanthropic design by Benjamin Franklin. A body of contributors was not long in being formed; and among them we meet with the names of prominent medical men, viz., Drs. Thomas and Phineas Bond, Thomas Cadwallader, William Chanceller, Cadwalader Evans, Richard Farmer, Thomas Graeme, John Kearsley, Sen., and John Kearsley Jr., Samuel Preston Moore, John Redman, William Shippen, Peter Sinmans, and Lloyd Zachary. After a bill had been brought into the House of Representatives of the Province, for founding a hospital, fears were entertained of its miscarriage under the apprehension, on the part of many of the members, "that the expense of paying physicians would eat up the whole of any fund that could be reasonably expected to be raised." This objection was soon removed by an offer from Drs. Lloyd Zachary, Thomas Bond, and Phineas Bond, to attend the hospital gratuitously for three years,—an example which has been followed to the present day;

and the bill was passed on the 7th of February, 1751, and received the governor's assent in the May following. A condition for the grant made in the bill, of two thousand pounds toward the founding, building, and furnishing of the hospital, was, that the like sum should be raised by contributions, the yearly interest of which was to be applied to the accommodation of the sick poor in said hospital, free of charge, for diet, attendance, advice, and medicines. This condition was soon complied with, and on the first of July of the same year (1751) a majority of the contributors met at the State House in Philadelphia, and, pursuant to the act, chose twelve managers and a treasurer.* The new managers lost no time in addressing a petition to Thomas Penn and Richard Penn, proprietaries of the Province of Pennsylvania, in which, after reciting the reasons for erecting a hospital, and the action taken on the subject by the General Assembly, they ask that, "as private persons raise a stock to support the Hospital, and the Assembly built the house, so (that all concerned in the Province may share in the honor, merit, and pleasure of promoting so good a work,) the proprietaries will be pleased to favor us with the grant of a piece of ground for the buildings and their necessary accommodations." The spot first indicated by the managers as that which they would prefer was the vacant part of the square between Ninth and Tenth streets from the Delaware, and south of Mulberry (Arch) street; its dimensions being 396 feet east and west, and 360 feet north and south. The proprietaries, responding to the request of the managers of the hospital, made an offer of the larger part of the ground lying north of Race and between Sixth and Seventh Streets, and of which the greater part of Franklin Square is now constituted. This offer was, however, declined by the managers of the hospital, both on account of the onerous conditions on which the grant was made and of the unsuitableness of the spot designated.† Until a building should be erected, the managers

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* The names of these gentlemen will probably interest our city readers, and we therefore append them. *Managers:* Joshua Crosby, Benjamin Franklin, Thomas Bond, Samuel Hazard, Richard Peters, Israel Pemberton, Jr., Samuel Rhodes, Hugh Roberts, Joseph Morris, John Smith, Evan Morgan, Charles Norris. *Treasurer:* John Reynell.

† "It is a moist piece of ground, adjoining the brick-yards where there are ponds of standing water, and therefore must be unhealthy, and more fit for a burying-place (to which part of it is already applied) than for any other service; besides, it is part of a square allotted by the late honorable proprietary for public uses, as the old maps of the city will show; our fellow-citizens would tax us with injustice to them, if we should accept of this lot by a grant from our present proprietaries, in such terms as would seem to imply our assenting to their having a right to the remainder of the square." Well argued and clearly expressed, most worthy managers!

(February 10th, 1752,) hired the most convenient house that could be procured, with gardens, etc., in Market Street near Fifth, and agreed with a matron to govern the family and nurse the sick, and provided beds and other necessary furniture. From that time "the physicians and surgeons, with a committee of the managers, have constantly and cheerfully given attendance at the house twice a week, to visit the sick, examine cases, admit and discharge patients, etc., besides daily attendance of the former." On the 7th of May, 1752, there was a new choice of managers, and a treasurer, (Charles Norris.) The managers met soon after and chose six physicians and surgeons for the ensuing year, viz., Doctors Lloyd Zachary, Thomas Bond, Phineas Bond, Thomas Cadwallader, Samuel Preston Moore, and John Redman. These gentlemen charitably supplied the medicines at their own expense till December, 1752. They are also represented to "have made their visits with greater assiduity and constancy than is sometimes used to their richer patients."

At the latter end of the year 1754, a lot of ground with a south front of 396 feet was purchased of Parker & Hinton, for the sum of five hundred pounds currency. An acre on the north side, belonging to the proprietaries, was afterwards given by them, so that possession was obtained of the entire square between Pine and Spruce and Eighth and Ninth Streets, on a part of which the hospital was afterwards erected. The foundation was laid on the 28th of May, 1755, in the presence of all the managers and physicians and of several contributors. On the twenty-seventh of December, in the following year, "the managers held their first meeting for inspecting the business of the hospital, in the room set apart for the purpose." The patients had been removed into the new building at an earlier day in this month. The record* from which we have borrowed ends with the year 1761, at which time two changes had occurred in the medical staff of the hospital by the resignation of Dr. Lloyd Zachary, in 1753, on account of disability from paralysis, and of Dr. Samuel Preston Moore, in 1759, owing to the pressure of other business; and the appointment of Dr. Thomas Cadwallader in place of the former, and of Dr. Cadwalader Evans in place of the latter.

While the records from which we have drawn show that Philadelphia was well provided with medical men of a high professional standard, it does not follow that equally satisfactory exhibitions in this way could have been made in the interior towns and throughout the Colony of Pennsylvania generally; nor, indeed, that with the increase of population in the capital itself there would be a corresponding addition of the right kind to the medical corps. It was hardly to be expected that young men academically educated would come forward, in adequate numbers and in due order of succession, to undergo a long probationary period of study at home, and then to encounter the danger and hardships of a voyage across the Atlantic, which was very different at that time to what it is now in this age of steam and scientific navigation, and in another and a foreign land to expend time and money and submit to social privations, in order to prepare themselves for obtaining the honors of the doctorate and for taking rank among enlightened and trustworthy practitioners of medicine. Fears on this head must have been felt by more than one of the accomplished physicians at the period of which we are now speaking, and suggested on their part a benevolent wish, perhaps not entirely unmixed with some natural longings of personal ambition, to provide means for carrying out a liberal curriculum of medical study at home. Without some provision of this nature, there would soon have ensued a defective supply of well-educated physicians, a lowering of the standard of the requisite attainments, abuses in the practice of medicine, and, as an unavoidable and lamentable consequence, great injury to the public health, as well by an ignorance of the prevention as of the means of the cure of diseases. The founding of a hospital, and the facilities which it gave for clinical instruction in its wards, must have imparted a degree of fixedness to what might otherwise have been but passing thoughts on the subject. Be this as it may, history tells the fact, that the foundation of the first medical school in North America was laid in Philadelphia; and that from the date of that event down to the present day, the lead thus taken has always been maintained. This assertion will not seem presumptuous if we advert to the annual concourse of students, which exceeds that of any other city on the continent. Corresponding prominence and reputation have been won for the medical literature of Philadelphia, which, counting all that emanates from it, as producer and distributor, is richer and more various than that of all other places, taken collectively, in the Union. Were we to attempt to trace, in due order of sequence, all the causes of these remarkable results, we might not be entirely successful; but we need have no hesitation in ascribing much, very much, to the character of the pioneers in the path of progress and improvement. Who were these men, is a question which will naturally be asked with some eagerness by our readers, whose wish on this occasion may fairly represent that of the profession at large. We shall proceed, without further comment, to gratify, to some extent at least, this laudable curiosity.

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* Our copy of this history is a reprint in 1817, from the first edition written by Franklin himself. Historical notices of the hospital have been written by Dr. C. B. Coates, and Mr. Malin, the steward of the institution; and with all desired fullness by Dr. George B. Wood, in his Address at the Centennial Celebration of the Founding of the Hospital, in 1855.

The men who planned the work of founding a medical school in Philadelphia, and they who joined the founders in giving it due proportions and extended usefulness, were noted for their learning and attainments, the result of their early studies at home, and of their subsequent studies and travels in different countries in Europe. They were not moved to the undertaking by the impulse of youthful vanity, to gain the adventitious distinction of mere title, nor by a desire to anticipate the slow income from regular professional labor. Imbued with the precepts and doctrines of the master-minds of the age, and possessed, through them, of the accumulated medical experience of twice ten centuries, they were fully alive to the importance of their new vocation and the magnitude of the trust confided in them when they obtained the honors of the doctorate. In a spirit of benevolence and patriotism, they determined, by associating themselves together in a corporate community, to transmit to that portion of their younger countrymen, who might hereafter wish to engage in the study of medicine, the advantages of systematic instruction in its several branches at home which they themselves had enjoyed abroad.

The leaders in this educational enterprise were Dr. William Shippen and Dr. John Morgan, both of them natives of Philadelphia, and both born, we believe, in the same year, 1735. Shippen was doubly blessed, first in the inheritance of an amiable and benevolent disposition from his father, Dr. William Shippen, Sen., and next in the example continually before him of purity of life and discharge of the Christian virtues by the same kind parent. He was early distinguished for his pleasing elocution, so much so that he was appointed to deliver the valedictory oration, in Latin, at the commencement held in the College of Newark, New Jersey, in which he had been prosecuting his studies. On this occasion he was publicly addressed by the celebrated Whitefield, who happened to be present, and who, after declaring that he had never heard better speaking, urged the young collegian to devote himself to the ministry. After a novitiate of three years' study under the direction of his father, Shippen, at the age of twenty-one years, embarked for Europe. He first went to London, where he remained some time in the family of John Hunter, while attending the lectures of Dr. William Hunter on anatomy and midwifery. In both matter and manner, he here found examples of the very highest standard, and which, it has been intimated, was not a little influential when making his own prelections and demonstrations in after-years. He was at this time an associate of William Hewson, afterwards eminent for his observations and experiments on the blood and other physiological subjects. It is not long since the son, Dr. William Hewson, alike estimable for his surgical skill and attainments and his personal and social character, has ceased to be among us. Shippen was fortunate in obtaining the friendship of the distinguished army physician, Sir John Pringle, and of Dr. John Fothergill. The latter must always be gratefully remembered by the inhabitants of Philadelphia, for his liberal gifts of anatomical drawings, valued at the time at upwards of two hundred guineas, and also of money, as contributions to the Pennsylvania Hospital, which had been erected a short time previously. Fothergill, in addition to his contributions to medical literature, was distinguished for his benevolence, his large practice and large income, and his fondness for natural history. Shippen went from London to Edinburgh, where, after devoting a proper period to the requisite studies, and attending the lectures of Cullen, Monro, and others, he took his degree.* Thence he visited France, as the physician of a lady laboring under consumption. At Paris, he made the acquaintance of Senac, whose treatises on fever and on diseases of the heart are familiar to the medical reader.

On his return to Philadelphia, after an absence of five years occupied in study and travel, in addition to the three years of preliminary study, Dr. Shippen resolved to teach anatomy on the human subject and to practice midwifery, in imitation of his eminent London preceptor, Dr. William Hunter. The first was a new and a bold undertaking, which required not only anatomical knowledge, but, also, the greatest discretion and address to obviate public prejudice and to prevent popular clamor. Happily for the cause of science, he was eminently fitted, both by natural gifts and acquired knowledge, to meet all the requirements of the occasion. Inheriting his father's unalterable good humor and popularity, graceful in person, and with manners the most conciliating, Dr. Shippen succeeded not only in disarming opposition, but in securing support out of doors for his undertaking. With these qualifications, it was an easy task for him, in the lecture-room, to impart additional interest to his demonstrations of organic structure by his facile speech and pleasing elocution. He arrived in the month of May, 1762; and soon after came the drawings presented by Fothergill, which had been committed to Shippen's care. His introductory lecture was delivered in the autumn of the same year, in one of the rooms of the State House, in the presence of many of the most intelligent citizens of Philadelphia.† His first class consisted of but twelve students; and yet from this small beginning arose the medical school which, ere many years had passed, became deservedly celebrated, and in whose halls hundreds were annually congregated to hear its professors hold forth on their respective branches. Dr. Shippen lived to see and enjoy this result. The class in attendance, in the last year in which he lectured in the University, 1807, that preceding his death, numbered nearly four hundred. Three courses of private lectures were given by Dr. Shippen, unconnected with any institution; but he was henceforth to be strengthened in his career of usefulness by being associated in corporate relations with Dr. John Morgan.

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* The subject of his thesis was, *De Placentæ cum Utero Nexu.*

† The first regular lectures on anatomy, on this continent, were delivered by Dr. William Hunter at Newport, Rhode Island, in the years 1754–55–56. Advertise-

Dr. Morgan had arranged with Dr. Shippen a plan for establishing a medical school in Philadelphia, and certainly no man was better fitted to contribute his full share toward securing the success of such an enterprise. Young Morgan, in 1757, took the first honors in the Philadelphia College, a literary institution which, though previously in existence as an academy, had only received its present title and corporate character two years previously. He had begun, however, the study of medicine, under Dr. John Redman, before this time, and consequently in the last years of his collegiate course. During one year of his apprenticeship, Morgan served as apothecary in the Pennsylvania Hospital. His preparatory medical studies having been gone through, he entered the provincial army in the double office of a lieutenant and a surgeon—a soldier militant and a soldier sanitary. It would seem that he acted only in the latter capacity, in which he acquired both knowledge and reputation. But it was not in Morgan's nature to content himself with mediocrity, or the limited sphere of usefulness of a provincial army surgeon. In 1760, having resigned his commission, he embarked for Europe, with a view of prosecuting his medical studies on a more extended scale, and with appliances which were not to be found at home. He first attended the lectures and operations of Dr. William Hunter, whose star was then in the ascendant in London; and whose manners and address contrasted so favorably with the rough exterior and blunt speech of his immediate precursor, Smellie. Morgan went from London to Edinburgh, where he passed two years in study and in attendance on the lectures of Monro, Cullen, Rutherford, Whytt, and Hope, in the University of Edinburgh, from whom he received his diploma of doctor of medicine in 1762, after having defended an elaborate thesis on "Pus." He now directed

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ments of these lectures may be seen, says Thacher, in the Boston papers of that day. Dr. Hunter was a native of Scotland, and nearly related to the brothers, Dr. William Hunter and John Hunter. He was well versed in the literature of his profession, and acquired eminence both in the practice of medicine and of surgery.

his steps to the continent, and made Paris his first stopping place; here he became a pupil, for a twelvemonth, of Sue, who then occupied the foremost grade in anatomy, and who was the grandfather of the novelist Sue. The successful preparation of a kidney, by injection, with great minuteness and finish, won for Dr. Morgan a membership in the Royal Academy of Surgery in Paris, by which he became the associate of Morand, of Antoine Petit, and of Antoine Louis, its perpetual secretary, all three surgical celebrities at that time. He visited Holland and Italy, conversed with Voltaire at Ferney, and had the honor of a long conference with Morgagni, then in the eightieth year of his age. The celebrated professor of Pavia was so much pleased with the young American, that he claimed kindred with him on the strength of some resemblance in their names, and he actually gave a copy of his works with an inscription in one of the volumes: "*Affini suo præclarissimo Johanni Morgan donat auctor.*" Gratifying evidence of the esteem with which the student and traveler was regarded, on his return to Great Britain, is found in the fact of his being elected a member of the Royal Society, and admitted a licentiate of the College of Physicians in London and a member of the College of Physicians of Edinburgh.

We can readily conceive with what pleasure and pride Dr. Morgan's return would be hailed by his fellow-citizens of Philadelphia, who could not have been strangers to the manner in which he had passed his time abroad, nor to the rich stores of medical knowledge which he was accumulating, not less for their benefit than for his own reputation and usefulness. Immediately after his return, in 1765, he was elected professor of the Theory and Practice of Medicine in the College of Philadelphia,—the first appointment of the kind ever made in Pennsylvania, probably the first in the then British Provinces of North America. But this office was merely titular, since it imposed on the professor no immediate duties nor promised immediate advantage to others. Dr. Morgan felt that something more than this was due, both to himself and to his fellow-citizens; and believing that the time had come to establish a regular medical school, he took the proper measures to enlist the support of others in his plan. The trustees were induced to act as they did by a written communication from Dr. Morgan, setting forth his plan for opening a medical school under the patronage and government of the college, and by written opinions and recommendations to the same purport which he had procured from Thomas Penn, the proprietary of Pennsylvania, and Mr. Hamilton and Mr. Peters, former presidents of the board of trustees of the College. The "Discourse," in favor of the measure, was delivered by Dr. Morgan, at a public anniversary commencement held in the College of Philadelphia, May 30 and 31, 1765, so soon as he had been elected professor: it was addressed to the trustees of the college and to the citizens of Philadelphia. The speaker, after enumerating and defining the various branches of knowledge which compose the science of medicine, the order in which they ought to be studied and the prerequisites before beginning, proceeds to argue in favor of establishing medical schools on this continent, and the tendency of and the circumstances favorable to such an undertaking. He mentions the eminent practitioners in Philadelphia, the practice of the city hospital—founded, as we have described, ten years before—the flourishing state of literature in the college, the favorable situation and populous condition of Philadelphia,* and the increase of the colonies. He next points out the advantages to be expected from the proposed institution by different parties, viz., to students of medicine, to the college, to the City of Philadelphia, and finally to the neighboring colonies. Every hope, every expectation and promise, held out by the new professor in this discourse, have been as fully realized as if they had been uttered in the spirit of prophecy. Speaking for himself, he announces his intention of giving, in a few months, a course of lectures on materia medica, and on chemistry, so far as it is allied to the former branch. "Next year I design," he continues, "to attempt a course of lectures upon the institutes and theory of medicine, which will be illustrated with practical observations." How fully and how soon his anticipations, expressed in the following sentence, were fulfilled! "Possibly, in a few years more, persons duly qualified may offer to undertake full and competent courses of every branch of medicine, and a plan may be adopted conformable to that which is followed in the so justly celebrated school of Edinburgh." He then appeals to the ambition and desire of youthful students to promote the public weal, so that they may qualify themselves, by steady application and by foreign travel, for teaching "the most difficult and important part of their profession." Dr. Morgan seems to have chosen the opportune time, and to have evoked from some of his contemporaries the right spirit, and one responsive to that by which he was himself animated. Apparently in anticipation of his appeal, the youthful Kuhn was at this very time abroad on his travels through Europe. Among those who listened to the discourse was, doubtless, young Rush, who, we may readily suppose, must have felt his heart throb with ambitious longings for an elevation to which he was in a manner invited by the laudable desire of the new professor to procure suitable associates in his undertaking.

Dr. Morgan adverted to Dr. Shippen's lectures on anatomy, and the ability of his friend to be a professor, if the college should create a chair of this branch. Dr. Shippen, in the introductory to his first course, had proposed some hints of a plan for giving medical lectures; but the merit of recommending a collegiate system of medical instruction belongs to Dr. Morgan. He was the first professor appointed, although Dr. Shippen was the first lecturer. The former showed the feasibleness of the plan, and volunteered his services to carry it on; the latter removed the greatest obstacle to its success, and gave practical evidence in its favor. Dr. Shippen was appointed professor of anatomy and surgery in September, 1765. These two highly educated and accomplished gentlemen, imbued not only with the knowledge taught in the best medical schools of Europe, but also cognizant of the most approved methods of teaching, are now associated together as part of a regular collegiate faculty of medicine. But, with all their talents and industry, they could not, of themselves, teach all the branches recognized to be useful and necessary for a full course of medical instruction. They were not long, however, in being reinforced by men of mark and merit, whose minds had been matured by long study and travel in foreign lands.

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* The population of the city at this time may have amounted to forty thousand persons.

First among these true notabilities, in the order of time, was Dr. Adam Kuhn, who was born in Germantown, now a part of the incorporated City of Philadelphia, on the 17th of November, 1741. After having enjoyed the benefits of a good academical education, which included an acquaintance with the classics, he entered the office of his father, Dr. Adam Smith Kuhn, of Lancaster, himself liberally educated, and a physician of ability. Young Kuhn set out on his travels in Europe with a view of engaging in a more enlarged and comprehensive course of study, and of gaining hospital experience greater than he could obtain at home. He first went to Upsal, at whose celebrated university he attended lectures on different branches of medicine during two years and a half, while enjoying, at the same time, the society and instructions of Linnæus, then in the height of his fame. In a letter of this eminent man to the elder Kuhn, he speaks in the highest terms of the amiable and uniformly correct deportment and devotion to study of the young American who had been confided to his charge. We next hear of Kuhn at Edinburgh, where, after defending a thesis, "*De Lavatione Frigida,*" he took his degree of doctor of medicine, in 1767. He had in the mean time traveled in Holland, France, and Germany. Dr. Kuhn, on his return in the month of January, 1768, was at once appointed to the chair of materia medica and botany in the College of Philadelphia—a strong evidence this of his professional attainments and moral worth. The young professor began to discharge, in part, the duties of his chair in the May following, by delivering a course of lectures on botany. From this date to the year 1797, or during a period of nearly thirty years, Dr. Kuhn continued to be a teacher; first in the medical department of the Philadelphia College, and afterwards, or from 1780, in the University of Pennsylvania, in which institution he was professor of the theory and practice of medicine. After the resigning of his chair, in 1797, Dr. Kuhn gave himself up entirely to the practice of his profession, in which he had acquired and continued to retain great eminence, due not only to his skill, but to his punctilious attention to the feelings of his patients and the rights of his medical brethren. He was physician to the Pennsylvania Hospital for a period of more than twenty-two years, and he succeeded Dr. Shippen as president of the College of Physicians, in the establishment of which institution by charter, in 1787, he had taken an active part. It may surprise some of our younger medical readers, who cannot walk half a mile, to learn that, notwithstanding the tax on his time and strength in his attendance on a large circle of patients, Dr. Kuhn only used his carriage in inclement weather. But then he was regular, even to abstemiousness, in his diet, and by this means he reached the good old age of seventy-three years. His death took place in July, 1817.

Nearly contemporaneous with the appointment of Dr. Kuhn to the chair of materia medica and botany, was that of Dr. Thomas Bond to the professorship of clinical medicine. Of the professional and literary merits of this gentleman we had occasion to speak in enumerating the medical worthies of Philadelphia in the first half of the eighteenth century. The first medical fruits gathered from the establishment of the hospital were those growing out of the clinical lectures (in 1766) given by Dr. Bond, anterior even to his appointment in the college. He may be regarded as the Nestor of the medical faculty of that day, the other members of which he had seen grow up from childhood. Notwithstanding the delicacy of his constitution and the predisposition, in early life, to pulmonary consumption, Dr. Bond reached the advanced age of seventy-two years—a result attributable, in a great measure, to the regularity of his habits of living, especially to his rigid attention to diet, and guarding against the effects of changes of temperature.

There yet remains one name, the greatest among the great, that of Rush, to complete our notice of the first medical faculty attached to the Philadelphia College. Benjamin Rush was sent to the academy at Nottingham, where Morgan and Shippen had been at an earlier date, and afterwards to the college at Princeton, in which he took the degree of bachelor of arts. His preliminary medical studies were begun, and continued during a period of six years, in the office of Dr. Redman, which was a nursery of professors. Among the first books read by the young student were the writings of Hippocrates; and one of his earliest self-imposed tasks, at this time, was a translation of the Aphorisms of the Coan sage. He was one of the first small class who attended the anatomical lectures of Dr. Shippen, in 1762. On the completion of the period of office study, which he never complained of as being too long, Rush visited Europe; and having complied with the requirements of its university, took the degree of doctor of medicine in Edinburgh, in 1768. The subject of his inaugural thesis was, "*De Coctione Ciborum in Ventriculo.*" The following winter was passed in London, and the spring in Paris. His return to Philadelphia, in the autumn of 1769, was signalized by his appointment to the chair of chemistry; thus making him the associate of Morgan, Shippen, Bond, and Kuhn, in the newly organized medical department of the Philadelphia College. This organization was maintained until the war of Independence; and it was then affected less by the derangement incidental to a revolution than by the founding of the University of Pennsylvania—at first a rival and antagonistic institution, but eventually the successor to the Philadelphia College, and inheritor of its medical faculty.

In the year (1768) immediately preceding that in which the last professor in the medical department of the Philadelphia College, Dr. Rush, was appointed, the first medical commencement was held. On this occasion the degree of bachelor of medicine was conferred on ten gentlemen, after suitable examination of their fitness to undertake the practice of their profession. At first this was the only degree granted, and for a while afterwards both it and the doctorate were conferred on candidates according to the extent of the qualifications and previous study of each of them respectively. A further change was subsequently effected, in the title of doctor of medicine being the only one granted.

Here we would pause in our narrative, to contemplate the broad foundation laid for medical education on this continent by its founders, and the high standard of attainments which they required of those who aspired to enter the ranks of the profession under their guidance and that of their successors. It was part of the good fortune of the new medical school in Philadelphia that it was planted in an atmosphere of professional learning, and its growth watched and fostered by men of the like feelings and aspirations with the first cultivators. Under other and less favorable auspices and direction, and left to the uncertain impulses and vagaries of popular belief and prejudices, there might have sprung up a brood of "Indian doctors," quack salvers and medicasters, proclaiming, with all the fervor of mock patriotism, the superior adaptation of the American system, as they would have called it, to the constitution of the inhabitants, and to the treatment of the diseases of this climate. It is worthy of remark, that the most eminent practitioners of medicine in Philadelphia, during the latter half of the last century, were good scholars—men of learning, and actively participating in, when they did not originate, the various plans set on foot for general and medical education and the advancement of literature and science. The usefulness, the dignity, and the success of the first medical school rested on the broad platform of both ancient and contemporary learning laid by its founders, and who, unless they had been early imbued with this learning and had submitted to a long and thorough training, would not, in the first instance, have felt the necessity of the work, nor, subsequently, have had sufficient confidence in themselves to carry it on to completion. Drs. Morgan and Shippen, and their associates whom we have named, enforced with more than the eloquence of words the correctness of the standard which they were about to offer for the edification and eumulous imitation of the American youths who should come after them. They could point to the examples of long and patient study and travel furnished in their own novitiates. They did not feel the eager desire, the hot haste, so characteristic of the young men of the present day, to run through, in the shortest possible period, a course of studies which shall allow of their procuring a degree and implied license to practice physic. Time, these founders were well aware, is an important and an indispensable condition for acquiring knowledge, and without it genius alone will be more apt to mislead than to benefit either its possessor or mankind in general. "It is now more than fifteen years," wrote Dr. Morgan, in the preface of his Discourse, "since I began the study of medicine in this city, which I have prosecuted ever since without interruption." During the first six years of this period, as we had occasion to state, he served, according to the custom of the time, an apprenticeship with Dr. Redman, himself in a large practice, and, as before mentioned, a man of learning, and a graduate of Leyden. The next four years were passed as surgeon in a provincial regiment, in the war then raging between England and France. Continuing his account of his medical studies, he tells his readers: "The last years I have spent in Europe, under the most celebrated masters in every branch of medicine, and spared no labor or expense to store my mind with an extensive acquaintance in every science that related, in any way, to the duty of a physician, having expended in the pursuit a sum of money of which the very interest would prove no contemptible income." Dr. Shippen, as we have seen, after having received full academical and collegiate instruction, studied medicine in his father's office for three years, and spent three more in study and travel in Europe. Dr. Kuhn, as the reader has also learned, was well grounded in classical learning, went through his preliminary studies in medicine with his father, and then studied and traveled in Europe for seven years. Dr. Rush was a student under Dr. Redman for six years and passed three more abroad, making in all nine years given to the study of medicine before he asked for a place among those who practiced it.

In his advocacy of a high standard of preparatory attainments for the study of medicine, and while insisting on its relations to every other science, Dr. Morgan makes no attempt to compromise with vulgar prejudices, nor with ignorance or indolence, in order to win popular favor for the cause which he has so much at heart. He looks with confidence to the transplanting of medical science "into the Philadelphia College, and for the improvement of every branch of the healing art." Nothing less than the standard recognized at Edinburgh, at Leyden, and at Paris and Montpelier, seemed worthy of being adopted in Philadelphia. The transplantation was made, the tree flourished, and its fruit has been ever since distributed over the land, in addition to the increase of similar growths by ingrafting from the parent stem. All honor, then, to Dr. John Morgan and Dr. William Shippen! Statues have been erected to men and celebrations kept in their honor, who have not deserved as well of the people of the United States as the illustrious founders of the first medical school on this continent.* Their names must always be held in veneration, not only by every successive faculty and class of alumni of the University of Pennsylvania, but by those of all the medical colleges in the Union, which derive or profess to derive nutriment and strength from the same wide and fertile fields of medical science and of medical ethics.

The regular sessions of the medical school could not fail to be interrupted during the revolutionary war, and especially at the time that

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* "In 1768, a medical school was organized under the direction and government of the College of the Province of New York, then called King's College, and a board of professors appointed to teach the several branches of medical science. The instructors in this early school were, Samuel Clossey, M.D., Professor of Anatomy; John Jones, M.D., Professor of Surgery; Peter Middleton, M.D., Professor of Physiology and Pathology; James Smith, M.D., Professor of Chemistry and Materia Medica; John V. B. Tennent, M.D., Professor of Midwifery; and Samuel Bard, M.D., Professor of the Theory and Practice of Physic. On all these branches lectures were regularly given; and the degrees of Bachelor of Medicine and Doctor of Medicine were conferred by the college."—*Dr. Hosack's Inaugural Discourse at the Opening of Rutgers Medical College in the City of New York*, November 6th, 1826. In 1769, we are told, by the same authority, that the first-mentioned of these degrees was conferred upon Samuel Kissam and Robert Tucker. "In 1770 the degree of Doctor of Medicine was conferred upon the last-mentioned physician, and in May of the succeeding year the same degree was conferred upon the former." The establishment of a hospital in New York was at a somewhat subsequent date.

Philadelphia was occupied by the British troops. Three of the professors were appointed to office in the American army. Dr. Morgan held for two years, or from 1775 to 1777, the post of "Director-general and Physician-in-chief to the General Hospital," and used his utmost endeavors, but with imperfect success, to establish system in his department. Complaints, it should rather be said clamors, without adequate cause, were raised against him; but their injustice, fully ascertained in the end and so admitted by Congress, did not prevent that body from removing him from office. Dr. Shippen, in 1776, took a place in the medical department of the army, which he continued to hold until the year 1780; but without his allowing it to interrupt his lectures, except during the winters of 1776 and 1777. Dr. Rush served in the capacity of physician-general to the middle department in the revolutionary army. The observations made on the diseases of hospitals and camps during his period of service were turned to excellent account, in after-years, in his lectures on the theory and practice of physic. But a still more signal honor will ever be associated with the name of Benjamin Rush, as one of the immortal band of the signers of the Declaration of Independence.

Before resuming the thread of our narrative of the progress of medical teaching in Philadelphia, we would invite the attention of our readers to the galaxy of distinguished men in all the departments of medicine during the decade between 1760 and 1770, that in which the two founders of the school, Drs. Morgan and Shippen, and their first associates, Drs. Kuhn and Rush, traveled and attended lectures and hospitals in Europe. The period was a remarkable one, and beyond what it would seem to be even to those who have paid some attention to medical biography. A zealous inquirer might, within the time above mentioned, have seen and spoken to the following array of eminent men, have listened to their prelections, and discoursed with them on their works. Some of them have already been mentioned, as teachers and friends of the young American students; but a repetition of their names in the present connection will not, we are sure, be considered inappropriate. Monro the first was still living when Shippen and Morgan were in Edinburgh, and he could have encouraged them in their project of founding a medical school in Philadelphia by relating the success which had attended his own efforts, in conjunction with Dr. Alston, to establish that of Edinburgh, in the early part of the century. He taught anatomy and surgery, while his associate lectured on materia medica and botany. An infirmary was then erected, in which a course of clinical lectures on surgery was opened by Dr. Munro, and on medicine by Dr. Rutherford. To these names were added those of Plummer, Whytt, and Sinclair, by which the first faculty was completed. That which succeeded, and was in activity during the period of which we are now speaking, gave at once to the Edinburgh school a station and fame second to no other in Europe. First came Cullen, who, leaving the chair of chemistry in the University of Glasgow, was elected to that in the University of Edinburgh as successor to Plummer, and then to the chair of materia medica, following Alston, and, in the year 1776, to that of the theory and practice of medicine, which had been filled by Rutherford. With Cullen were associated Monro the second, Black, the pupil and successor of Cullen in the chair of chemistry, and Hope, who took the place of the latter in that of materia medica, and finally Hamilton, as professor of midwifery. John Brown, who was to run a short career of fame and of misfortune, as first the pupil, protegé, and friend of Cullen, and subsequently the rival and bitter enemy of the great teacher, was now married and receiving medical students into his family as boarders. He was, at this time, best known for his mastery of Latin, in which language he wrote inaugural theses for candidates for graduation. The habits of intemperance, which shortened his life and ruined his fortunes, had already begun to show themselves.

In London, although there was neither university nor medical college, a visitor would meet with great teachers and eminent practitioners in anatomy, surgery, and midwifery—lecturers in hospitals, and extensively engaged in private practice. Percival Pott was surgeon to St. Bartholomew's Hospital, in the meridian of his fame as a humane and skillful operator, and a careful and watchful observer and writer. He had published his work on the "Injuries to which the Head is liable from External Violence." Sharp, the most noted pupil of the great Cheselden, and so long surgeon of Guy's Hospital, had, in a measure, withdrawn himself from business, and was traveling on the continent, to recruit his health. Dr. William Hunter, distinguished as an anatomist, physiologist, and accoucheur, with the additional merit of elucidating his subject by a happy manner of lecturing, was preparing his great work on the "Anatomy of the Human Gravid Uterus." It was begun in 1751, and not completed until 1775. He gained reputation, and access to the wealthy and the titled, which was denied to his predecessor and countryman, Smellie, who, with all his great merits as teacher and writer, was ungainly in person and even repulsive in manner. Denman, the pupil of Smellie, was now known as the author of "Essays on the Puerperal Fever and on Puerperal Convulsions;" 1768. John Hunter, the brother of William, had returned from the expedition to Belle Isle, where he acquired his knowledge of gunshot wounds, and was teaching anatomy and surgery to a class, sometimes not exceeding twenty persons. After he was elected (in 1767) a fellow of the Royal Society, he was in the habit of adjourning from the meetings of this body to some coffee-house, to discuss with others such subjects as were connected with science. The suggestion came from Hunter to Dr. George Fordyce, and Mr. Cumming, an eminent mechanic, and they were soon joined by Sir Joseph Banks, Dr. Solander, Dr. Muskelyne, the astronomer, Sir George Shuckburgh, Sir Harry Englefield, Sir Charles Blagden, Dr. Noothe, Mr. Ramsden, Mr. Watt, of steam-engine celebrity, and many others. Banks and Solander sailed in the following year with Cook on his voyage of circumvavigation. Pringle had written his work on Diseases of the Army, was knighted, and made physician to the new king, George III. Fothergill, in the midst of a large and lucrative practice, formed a complete botanic garden at his estate at Upton; and in the city he was making a valuable collection of shells and other objects of natural history. He had an artist at the Cape of Good Hope, and another to range the Alps, to aid him in these acquisitions. He was active in suggesting means for the improvement of the public health, and liberal in his benefactions. George Fordyce was teaching chemistry, materia medica, therapeutics, and pathology, and in this period he had issued the first part of his Elements of the Practice of Physic. Heberden, now in large practice, was accumulating that experience which he transmitted to his brethren in his "Commentaries." Hillary had returned from a six years' residence at Barbadoes, and written his observations on the climate and diseases of that island. Motherby was most probably engaged on his medical dictionary, but which did not appear until the year 1778. Short was still writing on the mineral waters of England. Percival, after having obtained his degree at Leyden, and traveled in France and the Netherlands, was settled in Manchester, to the medical and literary character of which he greatly contributed by his luminous histories and observations. His code of medical ethics dates in 1800. Darwin was living at Lichfield, but his "Botanic Garden" did not appear until 1781, and the first part of his Zoonomia in 1793. But in the period of which we are speaking, two eminent English poets were living—Armstrong and Akenside; the first of whom wrote "Medical Essays," the second on Dysentery, Causus, etc.

In Dublin, McBride was writing on scurvy. His "Introduction to the Practice of Medicine" was of a later date. Cleghorn was enjoying the reputation derived from his book on the "Epidemical Diseases of Minorca," written when he was but twenty-five years of age. He had become at this time a lecturer on anatomy. Rutter had sent out in two large volumes his "Synopsis of Mineral Waters." His "*Materia Medica Antiqua et Nova*," etc., published in the next decade, had to encounter the searching criticisms of Cullen.

Paris, during this period, contained many illustrious men in the different walks of professional life. Antoine Louis had just succeeded Morand as secretary of the Royal Academy of Surgery, to which body he imparted new life and action by his own contributions, collections of memoirs, and his famous "Eloges." He was at the same time the learned expounder of difficult questions in legal medicine. His rival, Antoine Petit, celebrated for his surgical tact and sure prognosis, had the additional merit of being the preceptor of Desault, who was beginning to show himself the able and attractive, though not eloquent, lecturer on surgery, before he had acquired the title of professor. Sabatier had written his anatomy, and was engaged in the preparation of his celebrated work on operative surgery. Le Dran was living, at an advanced age, with the reputation of a successful surgeon and judicious writer. Rouen could still show her eminent surgeon in the person of Le Cat. Levret had acquired a wide-world reputation as a teacher and practitioner of midwifery at this time, and had issued the third edition of his work on the Art of Accouchments. Bordeu, in a series of dissertations, had shown the therapeutic value of mineral waters in chronic diseases; had written learnedly on the pulse; and he was now promulgating his Investigations into the Mucous Tissue, which formed part of the groundwork of the brilliant structure raised in after-years by Bichat, in his "General Anatomy." Senac lived to the close of this decade, (1770.) As a physician to the king, Louis XV., he chanced to enjoy a vogue at court which was trivial in duration and weight compared to the fame acquired by his work on the Structure and Diseases of the Heart,—one of the most remarkable of the century. Lieutaud, introduced by Senac to the same circle, had written his anatomical essays, his Practice of Medicine, and Materia Medica, and the still more known production on morbid anatomy, (*Historia Anatomica-Medica.*) Quesnay, attached to the court as physician in ordinary to Louis XV., and perpetual secretary to the Royal Academy of Surgery, was better and more advantageously known as chief of the economical school, so called. He wrote, at this period, a treatise on Physiocrasy, or the Government most advantageous to the Human Race. Tronchin, of Geneva, the amiable, the good, unspoiled by fashion and the flattery of the women, was then the leading practitioner in Paris, with the appointment of physician to the Duke of Orleans. Lorry, a prolific writer on most of the branches of medicine, is chiefly known to us for his treatises on Melancholy and the Diseases of the Skin. Daran was living, with the reputation of great surgical talent, and especially for his success in healing strictures of the urethra by bougies; he was praised for his humanity to the sick during the plague in Messina. But these fine traits of character were disfigured by his quackery, in keeping the composition and use of his bougie and auxiliary means of treatment a secret. Sue, (Jean Joseph,) the preceptor for a while of Morgan, was one of the professional men of mark in Paris at this epoch, as an anatomist, and associate chief surgeon of the Charité Hospital. His dissections of the human body, while truer to nature, can hardly be considered more repulsive than the dissections of the human mind by his grandson, if we read right, Eugene Sue, the novelist of the present day.

The school of Montpelier possessed at this time Sauvages, so celebrated ever since for his *Pathologia Methodica* and *Nosologia Methodica*, by which he gained the foremost rank as a nosologist. Barthez had just been appointed to a chair, and began to develop the subtleties of his incomprehensible vitalism: he showed his ingenuity by making it square with the richest therapeutical applications. Venel had become professor of materia medica, and he must be regarded as the first to introduce chemistry to its proper place in the faculty of the Montpelier medical school. In conjunction with Bayen he had made analyses of many of the mineral waters of France, and by undertaking those of Seltz he prepared the way for the manufacture of artificial gaseous waters. Pomme wrote his large treatise on the Vaporous Affections of Women, and claimed for the use of water, internally and externally, virtues approximating to a panacea. Fouquet, an unsuccessful competitor, at forty years of age, for the chair of Sauvages, by "*concours*," gained the object of his ambition at another trial, when he was upwards of sixty, by succeeding Grimaud. His remarkable treatise on the Pulse appeared in 1767. In this work he attempts to show that each organ in disease has its characteristic pulse, and that therapeutical agents, such as opium and blisters, have each their peculiar manifestations in this way. His theses and memoirs are numerous, and embrace a great variety of topics. Astruc was still living in the first half of this decade, to discourse on the venereal disease and the diseases of women, on both of which subjects he had written such masterly treatises.

Buffon had issued fourteen of the thirty-six volumes of his great work on Natural History, in which philosophy and science were clothed in the rich dress of eloquence. Accuracy in the detail of animal structure was insured by the minute observations and dissections of his friend and collaborator, Daubenton. Bonnet, of Geneva, was now known for his "Contemplations of Nature," and he exhibited his talents as a naturalist and metaphysician, with the possession, at the same time, of a practical ability, which caused him to be elected a member of the great council of state. His speculations on the co-ordination of all created beings and the indefinite pre-existence of germs, have furnished themes for innumerable commentaries. Geoffroy was yielding all the time he could snatch from the cares of a large practice to comparative anatomy and zoology. He gave utterance also to the precepts of hygiene in pure Latinity. Antoine Jussieu was no longer living; but his brother Bernard was now actively engaged in making a systematic division—the natural method, as it has been called—of the vegetable kingdom, and earning the eulogy bestowed upon him by Cuvier, of being "the inspiring genius of modern botanists."

Italy, the nurse of modern medicine as she has ever been, since, an active contributor to its progress, could furnish in this decade the classical names of Morgagni, Spallanzani, Fontana, Caldani, and Galvani. The great work of the first named, *De Sedibus et Causis Morborum per Anatomen Indigatis*, appeared in 1762, when its illustrious author was in the eightieth year of his age. Spallanzani, though not a physician, takes a leading place among experimental physiologists. He had written in this period, on generation, and the action of the heart; and described a mountain journey, with observations on the origin of springs. Fontana sent forth dissertations on irritability and various other physiological questions. His treatise on poisons did not appear until 1781. Caldani, the pupil and afterwards the successor of Morgagni, at Padua, was also long the correspondent of Haller, whose experiments he repeated. He wrote largely and experimented on anatomy, physiology, and pathology. Galvani was professor of anatomy in Bologna in 1762, but had not yet made those discoveries and experiments in animal electricity which have made his name ever famous.

In the north of Europe, the University of Upsal was now celebrated for its professors, among whom shone, with peculiar lustre, the names of Linnæus and Bergman. Of the first, as the great naturalist of the eighteenth century, and more especially eminent in botany, it is unnecessary to speak here. His merits as a writer on materia medica are recognized. Dr. Kuhn, we have seen, was a student of the celebrated Swede. Bergman has the merit of being a discoverer in chemistry; as, for instance, of oxalic acid and the acid character of what was then called fixed air: he systematized mineralogy, and was the first to analyze mineral waters after a methodical and critical manner.

Gaubius, the successor of Boerhaave in the school of Leyden, then ranking as the first in Europe, had not long before (1758) issued his Institutes of Medical Pathology. His "Adversaria" was of a later date. In the number of his associates was Albinus the second,* (Bernard

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* The first Albinus, whose real name was Weiss, (White,) was also a professor in Leyden, and the father of the great Albinus, and of Christian Bernard, whose reputation was inferior only to that of Siegfried.

Siegfried,) who, as anatomist and teacher of anatomy, was almost without a peer in the eighteenth century. His researches in this branch, and in physiology, zoology, and botany, under the title of *Annatotiones Academicæ*, were published in successive fasciculi, the last of which appeared in 1768. Camper was another name of which Holland had reason to be proud at this time. After having taught anatomy, surgery, and medicine, in the Athenæum of Amsterdam, he had been transferred to a chair of surgery, anatomy, and medicine, in the University of Groningen, and was sending out, almost annually, a dissertation on comparative anatomy or physiology, and, occasionally, on medical jurisprudence.

The University of Gottingen, founded by George II., was rising rapidly to eminence, and already rivaled the oldest institutions of learning, under the presidency of the great Haller, whose name alone would have attracted students to its halls from all parts of Europe. An enlarged edition of his great work, under the modest title of First Lines of Physiology, (*Primæ Lineæ Physiologiæ*, etc.,) appeared at this time, (1765,) and thenceforward this branch rested on a demonstrative and scientific basis. His knowledge of anatomy and botany would, in either of the two, have conferred distinction on other men; while as a poet he could take a place among the most favored devotees of the muses, and thus shine in a twofold light, as the follower of Apollo. He surrounded himself with associates, brought to Gottingen at his recommendation, who were eminent in the different branches of medicine. There were Vogel, (Rudolphe Augustin,) teaching materia medica, Roederer, obstetrics, the two Richters, and George Gottlob and his more celebrated nephew, Augustus Gottlob, surgery.

The same services that were rendered by Haller to the University of Gottingen were performed by Van Swieten for the medical institutions of Austria, which, under the encouragement offered by the Empress, Maria Theresa, were re-organized by him on a larger and more liberal plan. Van Swieten is best known as the learned, laborious, and patient commentator of Boerhaave; and this may connect his name with that of Gaubius and of Haller, who engaged in the same labor of love. He induced De Haen to come to Vienna, and encouraged him to found the school of clinical medicine, which, under the successive direction of Stoll, J. P. Frank, Hildebrand, etc., has maintained its high character to the present day. Quarin was teacher at this time of materia medica and the institutes of medicine in Vienna. He was also the receiver of one thousand pieces of gold for his frank reply to the question of the Emperor Joseph II.: how long that prince might be expected to live. Greding, of Zwickau, was working for that eminence which he subsequently reached, by his careful study and appreciation of the best methods of treating the insane, and by his numerous and carefully conducted observations to determine the organs affected in this class of sufferers. Theden, a favorite of the great Frederick, and who had accompanied that monarch in his wars, was at this time surgeon-general of the artillery, and was laying a foundation for Prussian surgery. We must not omit, in these sketches, the name of Zimmerman, whose work on dysentery was pronounced by Cullen to be superior to all that preceded it.

Of these celebrated men whom we have named, some of them were the learned teachers, all of them the bright exemplars, in observation and experiment, and in patience of thought and prolonged study, of the founders of our first medical school. From this school have grown, at different intervals, the medical department of the University of Pennsylvania, the Jefferson Medical College, and the Pennsylvania Medical College, in the City of Philadelphia, and the numerous and flourishing schools in the Southern and Western States. The present status of our city institutions is almost entirely owing to the merits and reputation of their parent, under it must also be admitted the genial influences of situation, climate, and the character of its people. Some names have yet to be introduced in our brief historical sketch, in order to show how the Faculty, which has ever since continued to shed a lustre on American medicine, was completed. We pass over, with a simple mention, the unjust and discreditable act, in 1779, of the Pennsylvania legislature, by which the property of the Philadelphia College was sequestered, and converted into part of the endowments of the newly erected University of Pennsylvania. A tardy atonement for this wrong was made in 1789; and the college was merged in the university in 1791. The medical faculty at this last date was as follows: Dr. Shippen, *Anatomy, Surgery, and Midwifery,* with Dr. Wistar for his adjunct; Dr. Kuhn, *Theory and Practice of Medicine;* Dr. Rush, *Institutes of Medicine and Clinical Medicine;* Dr. Hutchinson, *Chemistry;* Dr. Griffitts, *Materia Medica;* and Dr. Benjamin Smith Barton, *Natural History and Botany.* We miss from this list the honored names of Morgan and Bond. Death had previously stricken them down; the first in 1780, at the early age of fifty-four years; the second in 1784, at the advanced age of seventy-four. We meet with new names in the Union Faculty, viz.: Hutchinson, Griffitts, Wistar, and Barton. The two first mentioned had but a short tenure of office, owing, in one case, to death; in the other, to resignation.

Dr. James Hutchinson was born in Bucks County, Pennsylvania, in 1752. After receiving the degree of Bachelor of Arts in the College of Philadelphia, he began the study of medicine in that city, under the direction of Dr. Evans, and continued it in London under the immediate guidance of Dr. Fothergill, already known to our readers as a benefactor to the Pennsylvania Hospital. Such was his proficiency in chemistry that the trustees of the College of Philadelphia presented him, in 1774, with a gold medal. On his return home, he entered the army, and served as physician and surgeon during the whole of the revolutionary war. In 1779 he was elected one of the trustees of the infant university; and in the year 1789 he received the appointment to the chair of materia medica and chemistry in that institution. In addition to his professorship, Dr. Hutchinson held the post of physician to the Pennsylvania Hospital, and to the port of Philadelphia. He was also a member of the Philosophical Society. To unquestionable talents and opportunities for acquiring professional distinction and enlarging his field of usefulness, he added a winning address and popular manners. The road to fame and wealth thus opened to him, was, however, suddenly closed by death from the yellow fever of 1793, while he was yet in the very strength and maturity of his days.

A longer period was given for useful and benevolent operations to his colleague, Dr. Griffitts, although it fell short of the threescore years and ten. Samuel Powell Griffitts was born in 1759, of parents of the religious Society of Friends, more commonly called Quakers, of which he always continued to be a member. He acquired an accurate knowledge of the Greek and Latin languages in the College of Philadelphia, and a mastery of the French so as to speak it with correctness and fluency. His medical studies were begun under Dr. Adam Kuhn, with whom he became, in after years, associated in the medical faculty of the university, as he was ever after by the ties of friendship. He visited Europe in 1781, and directed his steps to Paris, where he attended the lectures and hospitals, at a time when Lavoisier, Fourcroy, and Berthollet were laying the foundation of modern chemistry. After this he attended a course at Montpelier, so long celebrated for its medical school. Having traveled through the south of France, he repaired to Edinburgh, at that time the chief seat of medical science in Great Britain. There he enjoyed the instructions of Cullen, Monro the second, Gregory, Black, and Hamilton. Not long after his return home, Dr. Griffitts, following the impulses of his kindly nature, regulated at the same time by sound common sense, set about, in 1786, organizing the Philadelphia Dispensary, of which he must be regarded as the true founder. As a charity for the relief of the sick, it is only second in importance to the hospital: as a means for clinical instruction, it has not been turned to the account of which it is susceptible. For the first seven years, Dr. Griffitts served as manager to this institution; and we are told that, during a period of forty years, he visited it, with few exceptions, daily. He was one of the original members of the College of Physicians, at its establishment in 1787, and a member of the Philosophical Society when Franklin was president. He was among the earliest advocates for preparing a national pharmacopœia,—and he was in consequence appointed by the College of Physicians to prepare an essay of a pharmacopœia, which was read in the first national convention held at Washington on the first day of January, 1820.

Dr. Benjamin Smith Barton was a native of Lancaster, Pennsylvania. He visited London and Edinburgh, and prosecuted his medical studies in those cities. He afterwards went to Gottingen, where he obtained the degree of Doctor of Medicine. Blumenbach was then eminent in physiology and comparative anatomy, and was on the point of bringing out the first number of his *Collectio Craniorum*, etc.; and Osiander was beginning to take that leading stand in obstetrical teaching which he subsequently acquired. Dr. Barton was appointed, on his return from Europe, in 1789, professor of natural history and botany in the College of Philadelphia. On the union of the two institutions, in 1791, he retained this title, but without the privileges of the other professors. He succeeded, in 1796, to the chair left vacant by the resignation of Dr. Griffitts, but with the substitution of botany for pharmacy, in addition to materia medica. He held this post until the death of Dr. Rush, whom he succeeded in the chair of the theory and practice of medicine, in 1813. His tenure of office was a short one; it being terminated by death in December, 1815, in the fiftieth year of his age. Dr. Barton did much to disseminate a fondness for botany and natural history in general, and was successful in adding, both by his own observations and the investigations of his pupils, to a knowledge of the medicinal properties of numerous indigenous plants. His "Contributions toward a Materia Medica of the United States," and the inaugural theses of several of the graduates of the university, also published, are enduring evidences of his services in this way. To him also is awarded the merit of writing the first American elementary work on botany.

The name of Wistar is not only conspicuous in the annals of anatomical teaching in the University of Pennsylvania, but it is permanently affixed to the museum of which he was the founder, and to the formation of which he so largely contributed. In science he will be remembered as president of the Philosophical Society; and at the present time his name is familiar as household words, to indicate the literary and social meeting, called "Wistar Party," which finds scarcely a counterpart out of Philadelphia. Dr. Caspar Wistar was born in Philadelphia, in 1761: his parents and ancestors, on both sides, were of the Society of Friends. His academical studies made him a good scholar in Greek and Latin:

he was a slow learner, but a persevering and successful student. His choice of a profession was determined by the circumstance of his volunteering, when a boy of sixteen, to aid in ministering to the relief of the wounded, after the battle of Germantown, in 1777. He studied medicine under Dr. Redman, and afterwards surgery under Dr. Jones. In 1782, young Wistar took the degree of Bachelor of Medicine, in the College of Philadelphia. After a year spent in England, he repaired to Edinburgh, and obtained the honors of the doctorate in 1786; his inaugural dissertation being entitled "*De Animâ Demissâ.*" Previously to this event, he had been elected, for two successive years, one of the presidents of the Royal Medical Society of Edinburgh. On his return to his native city he began a career of usefulness in his profession, as a teacher and practitioner, which won for him the love of his patients and the esteem of his fellow-citizens. We need but advert to the danger to his life from an attack of yellow fever, in 1793; to his being made a physician to the Pennsylvania Hospital in the same year; to his sixteen years of valuable services rendered to that institution; to his appointment to the chair of chemistry, in the college, in 1789, and to the post of adjunct professor of anatomy, surgery and midwifery, in the university, in 1792. The year 1808, that of the death of Dr. Shippen, gave to Dr. Wistar the entire chair of anatomy and of midwifery, which was still attached to it. Surgery had been recognized as an independent branch, and the chair was filled by Dr. Physick. Dr. Wistar soon (in 1810) divested himself of midwifery, and directed all his energies to demonstrations and prelections on anatomy. As a teacher of this branch, it is no exaggeration to say, for we have had large opportunities of making comparisons, that he was unrivaled. The dry bone, in the hand of the lecturer, seemed, in the eyes of his wondering class, to become an object of beauty; and its processes and foramina as attractive as the finest outlines of form and delicate turns of the joints, chiseled by a Phidias or a Canova. By the time Wistar had got to the sphenoid bone, what with looking at the magnified model carved in wood, listening to his explanations, and then handling and closely inspecting the bone itself, one of others handed over for the purpose to sub-classes of twelve, the students felt that they were intrusted with a precious deposit, a minute acquaintance with which seemed to them to be of far greater importance than to be initiated into the mysteries of the Cabala, or even to square the circle.

The year 1805 was memorable in the history of the medical department of the University of Pennsylvania. In it Dr. Rush was formally elected to the chair of the theory and practice of medicine, although he had been performing all the duties pertaining to it for some years previously, or since the resignation of Dr. Kuhn, in 1797; and Dr. Physick was made professor of surgery, which now, for the first time, was admitted to a separate and equal rank with the other branches.

Dr. Philip Syng Physick was born in Philadelphia, in 1768. His father was an Englishman. Young Physick took the degree of Bachelor of Arts in May, 1785, and began, in the following month, the study of medicine in the office of Dr. Adam Kuhn, in which he remained for three years. In the beginning of the year 1789, he went to Europe, and became a private pupil of John Hunter, and a member of his family. In January, 1790, he was made house-surgeon to St. George's Hospital for one year; and in the following year went to Edinburgh, where he graduated in May, 1792. His thesis, "*De Apoplexiâ,*" was written without the aid of any of the professional grinders who so often assist the indolent, or those unconversant with the Latin language, to perform this duty as well as to answer the questions which would be propounded. The year after his return was that of the ever-memorable pestilence of yellow fever, in 1793. By a strange mistake of his biographers, including his successor in the chair of anatomy, Dr. Horner, and his son-in-law, Dr. Randolph, he is represented to have been a resident physician at the Bush Hill Hospital, which was set apart for the reception of patients ill of the fever, during the period of the epidemic in this year. His services in this way were, in fact, rendered in the fever year of 1797. He was elected a surgeon to the Pennsylvania Hospital in 1794, and continued in this post until 1816, or a period of twenty-two years. In 1800 he began a course of private lectures on surgery, and in 1805 was called to the university as professor of this branch, which he continued to teach until the year 1819, and then only abandoned it to take the chair of anatomy. The entrance of Dr. Physick into the university was a measure not less of policy, in reference to its interests, than of gratification and honor to himself. He had opportunities now for disseminating those principles of surgery, which he had learned from his great preceptor, John Hunter, and which were strengthened and enforced by his own meditations and experience. During a period of fifteen years of public lecturing, Dr. Physick made his opinions the received canons in surgery over a greater extent of territory than it has ever yet fallen to the lot of any teacher of this branch of medicine to accomplish. In listening to him, the students felt that they were addressed by one who spoke with an authority derived not merely from office, but from an intimate knowledge of his subject and an entire conviction of the correctness of what he was saying. With him there was no superfluity of phrase, no attempt to embellish the truth. That which he knew from long experience had been his guiding star, ought, he believed, to fix in like manner the attention of others. When, as has happened within our observation, on a cloudy winter morning, he held forth to his class with his lecture in one hand and a candle in the other, the attentive and almost venerating students might believe for the moment, and especially when looking at his strongly defined features and pale face, that he was a messenger from beyond the grave (*outretombe*) who had come to announce to them great and important truths, which it behooved them to know well and to practice faithfully. Without entering into a specification of the distinctive character and merits of Dr. Physick, even in a professional point of view, we would touch on one topic, viz., his conservative surgery, that by which he showed how often a member, ruthlessly given over to amputation by mere operators, mechanics in their profession, could be saved by the slower but less showy use of ordinary therapeutical agents, aided by suitable posture and regimen.

What a glorious privilege was that enjoyed, for nearly a decennial period, by the students attending the medical lectures in the University of Pennsylvania, to pass from the room of the great teacher of anatomy, in the person of Dr. Wistar, to that of Physick, the "father of American surgery," and thence to go and hear the prelections of Rush, the American Hippocrates, and the father of American medicine, the medical philosopher, the philosophical philanthropist, and the tried patriot; learned yet ever learning, diligent in collecting facts, and ready, when the opportune moment came, to expand facts into principles; whose purity of life, from boyhood to advanced age, was a practical commentary on his elevated ethics, and whose pen and tongue were enlisted on every theme that could give value to the independence of his country, by improving the health, cultivating the mind, and preserving the morals of his fellow-citizens.

The chair of chemistry left vacant by the death of Dr. Hutchinson, in 1793, was offered to Dr. Priestley, who declined, and it was then conferred on Dr. Carson, who died without his having been able to give a lecture. Finally Dr. James Woodhouse was elected, in 1795. This gentleman was born in 1770, was a pupil of Dr. Rush, and for a short time surgeon in the army. By his election he became, in the faculty, the associate of Shippen, Wistar, and Rush, and worthily did he acquit himself of this honor as an able lecturer and successful experimenter. Dr. John Redman Coxe was his successor in 1809,—and afterwards carried his learning and research into the chair of materia medica, in 1818. Dr. John Syng Dorsey, early lost to the profession which he had already adorned, was made adjunct professor of surgery to his uncle, Dr. Physick, in 1807, and in 1816 received the appointment of professor of materia medica, as successor to Dr. Chapman, and in 1818 to that of anatomy, after the death of Dr. Wistar. He died in the latter part of the same year, leaving the chair to be filled by Dr. Physick, as it might have been filled by hundreds of inferior men. The change was ill-advised, and ought never to have been made. The great surgeon consented to place himself in a false position, under we know not what influences which were brought to bear on the occasion. Dr. Thomas C. James, whose wide range of reading and scholarship was veiled by his extreme modesty, was the first incumbent to the chair of midwifery, on its being recognized as a separate branch, in 1810.

Of Dr. Chapman, the successor of Dr. Barton, at first in the chair of materia medica, and then in that of the practice of medicine, we would gladly speak in terms becoming the merits of the man and the professor, were space left us for the purpose. A native of Virginia, he exhibited the urbane manners and pleasing colloquial powers joined to talents of a high order, which are so often met with in the inhabitants of that great State. He could see at once the strong points of a subject and present it with all the freshness of novelty. His practice and his teaching were for the most part eclectic; and theory was seldom hazarded except in explanation of co-ordinate or successive series of vital phenomena, in which he supposed sympathy to play an important part. He will be long and gratefully remembered as the founder of a summer school of medicine, known under the title of the "Philadelphia Medical Institute," and which had for its teachers and corporators Drs. Horner, Dewees, Jackson, Bell, J. K. Mitchell, Hodge, and Thomas Harris, in association with Dr. Chapman, and for assistants to some of these gentlemen, Drs. Goddard, Mütter, and Carson. The Institute was a nursery of professors; all of the parties just named, with the exception of Dr. Harris, having been elected to fill chairs in medical schools. Dr. Chapman was often spoken of as an indolent man, and to a casual acquaintance and superficial observer, who only saw him in his hours of ease—gay, smiling, and jocose—he might readily seem so. And yet, at the very time, when in the outer world in which he was daily moving, he might be thought by such persons to be doing nothing, he was editing and contributing articles to a medical journal, which he founded, and lecturing in the Medical Institute for five months every year, in addition to the discharge of duties of a similar nature, during nearly a like period, in the university: he was, also, attending, daily, a large circle of patients, and in a year of which we are now thinking, he brought out a new and enlarged edition of his work on Materia Medica and Therapeutics. For an indolent man, we never knew one who could interweave so much work with his indolence, if, in conformity with the received prejudices of the time, we still retain the term as at all applicable to his character.

We shall not trace the successive changes in the medical faculty of the university of later years, nor dwell on the lucid if not always elegant discourses of Dewees on midwifery, the painstaking and persevering industry of Horner in anatomy, and the genius of Hare, and the eloquence of James B. Rogers as teachers of chemistry. Nor is it our intention to give the history of the Jefferson Medical College nor of the Pennsylvania Medical College. The genius and surgical talent and the extensive reputation of the chief founder of both these institutions, Dr. George McClellan, and the rare ethnological knowledge of Dr. Samuel G. Morton, who for awhile taught anatomy in the latter, require a larger canvas and a freer pencil than we can command at the present time. In a history of the medical literature of Philadelphia, the labors of Dr. Eberle, another of the founders of the Jefferson Medical College, and the scientific attainments of Dr. Green, would find a prominent place. Dr. Granville Sharp Pattison, the attractive teacher of anatomy, will also be entitled to a full notice in any series of biographical sketches which shall be given of the professors in this school. For one session it was illumined by the flashing genius of Drake, who drew off with him to Cincinnati Drs. Eberle, Thos. D. Mitchell, and Gross. To the merits of its late eminent teacher and practitioner of surgery, Dr. Mütter, emphatic testimony was borne in the eloquent introductory lecture of a surviving colleague.* A similar and well-merited eulogy of the varied talents and contributions to medical science of Dr. John K. Mitchell, had been rendered in a previous year by his friend and successor in the chair of the practice of medicine.† In the Pennsylvania Medical College, tributes of respect and appreciative praise have been offered to the memory of Drs. Patterson, Bird, and Grant; the two former of whom taught, in succession, materia medica, the last, anatomy.‡

A century has elapsed since the Pennsylvania Hospital was founded, and in a few years more this period will be completed since the opening of the first medical school in Philadelphia. During this time the city has increased in population from 40,000 to 650,000 inhabitants. The hospital which received, in the first year after it was opened, ninety-nine patients,§ gave accommodation last year, 1858–9, to 1800, of whom about a third were surgical cases. The scanty provisions made, at the beginning, for the reception of the insane in one wing of the building have been expanded of late years to the erection, out of the city, of a large and separate structure, surrounded by extensive grounds, which affords means for the treatment of this class of patients beyond all former precedent, whether we look to other parts of the United States or even to Europe. The average number of patients during the year from May, 1858, to May, 1859, was 238. At the first commencement held by the medical faculty of the Philadelphia College, in 1768, ten of those who had attended lectures and complied with the required conditions previously laid down, received the degree of Bachelor of Medicine. At the commencement held in April, 1859, in the University of Pennsylvania, the degree of Doctor of Medicine was conferred on 144 candidates. In the Jefferson Medical College 256 received similar honors, as did also thirty-seven in the Pennsylvania College, and fourteen in the Philadelphia Medical College.* The entire number of graduates in 1859 goes beyond even what we may suppose to have been the most sanguine anticipations of Dr. Morgan in his introductory discourse, already quoted. In speaking of the future influence of the school, which he and his friend Dr. Shippen were about to found, he says: "By sending these abroad duly qualified, or by exciting an emulation among men of parts and literature, it may give birth to other useful institutions of a similar nature, or occasional rise, by its example, to numerous societies of different kinds, calculated to spread the light of knowledge through the whole American continent wherever inhabited." Words these of hope and of prophecy, which have been realized not only in the rise of rival institutions to the first school in Philadelphia itself, but of similar ones in nearly every section of our vast confederacy—extending from the Atlantic to the Pacific Oceans, and from the great lakes to the Gulf of Mexico. The number of students in attendance on the three medical schools in this city during the present winter, 1859–60, exceeds twelve hundred—a number beyond that collected in London, and, as we believe, we may say in Paris, not to speak of other European capitals.†

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* Dr. Pancoast.

† Dr. Dickson.

‡ Dr. Samuel McClellan, once professor of midwifery in this institution, as he had been for awhile in the Jefferson Medical College, withdrew from the faculty some years before his death. The same remark applies to Walter Johnston, who was for a time professor of chemistry.

§ The number received in the provisional hospital, between February 11th, 1752, and May 4th, 1753, was sixty-four.

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* This school has been closed; its faculty having taken chairs in the Pennsylvania Medical College, by an arrangement made with the gentlemen who had previously filled them, and under appointment by the Trustees at Gettysburg.

† The whole of the present paper was written for insertion in the January number of this Journal; but it was crowded out by other matter. The diminution in the number of students, chiefly at the expense of the Jefferson Medical College, by their sudden secession (abduction?) in the latter part of the month of December, 1859, without any complaint made against their professors, need only be adverted to on the present occasion.

Were we arguing a doubtful point, or were we merely intent on eulogizing the City of Philadelphia and her medical schools, we might now bring our narrative to a close, and leave our readers to a seemingly natural and satisfactory inference, viz., that one at least of the fountains of medical science is here perennial, and that the methods for distributing its waters to all sincere applicants athirst for knowledge have been, from year to year, for the last century, quite effective. We have dwelt with some emphasis on the singular merits of those who first opened out this spring, sacred to Esculapius and Hygeia. We leave to others to show that, with increased rate of distribution, there cannot be a falling off in the industry and ability of their successors, the present dispensers of the inspiring draughts. It does not comport with our intentions on the score of taste, to speak of the respective merits of the medical schools of this city, nor in any way of the personnel of their faculties, although we believe that few could do it with more impartiality. Our observations and sketches in this line have been of those who have passed away from the stage of life. If we should be tempted, at a future day, to discourse on the medical literature of Philadelphia, we would find it both our duty and pleasure to give names of professors who are authors, and to place them in a duly prominent point of view.

What are the means of instruction, material and intellectual, afforded to the medical students who, from all parts of the United States, have flocked to Philadelphia during the collegiate term of 1859–60? In the purely demonstrative branch of anatomy, that which lies at the foundation of correct medical knowledge, and the material for which can only be fully procured in a large city, there have always been the greatest facilities afforded both by the teaching of the professor in the amphitheatre and by dissections in the adjoining rooms under his direction, as well as in numerous private establishments under competent demonstrators. Chemistry, another branch largely demonstrative, is taught with all the apparatus demanded by the wants of modern science, and with limitations caused only by the short duration of the college session. Physiology, if not actually taught by experiment at the time, is made more and more to rest on the recorded and authentic results of experiments and experimental observation instituted elsewhere. The same may be said of pathology, which only fails to receive its fullest developments by the want of time allowed in the curricula of study. Continually, however, references are made to the statistical or numerical value of causes and to the results of actual dissection and to colored drawings of structural lesions—means these enlisted both by the professor of the institutes and the professor of the theory and practice of medicine. This branch, ceasing to be regarded as purely didactic, is now, in part at least, taught demonstratively, by the aids just mentioned and by imitations in *papier-maché* and composite material of a more enduring and indestructible nature. Surgery and midwifery are developed to the classes in descriptive prelections and in the exhibition of the use of the *armentaria*, as also through the aids furnished by the pictorial and plastic arts,—painting, charts, models. Materia medica is made familiar by the display of specimens of each article and often of the living plants, both indigenous and exotic, as introductory to an investigation of their therapeutic value. There may be differences in the number and richness of these various means of illustrating the lectures delivered in the schools, according to the taste and liberal expenditure of the professors; but no essential advance in this respect can be made in one of them which is not imitated by the others.

In one particular there is a general accordance of sentiment and action among the faculties of our three medical schools, viz., in the prominence given to clinical instruction. Philadelphia, although one of the healthiest cities in the world, must necessarily, owing to her large population, furnish ample materials for this purpose—derived from the sailors who frequent her port and the indigent sick, as well native as foreign. Hospitals, infirmaries, and dispensaries give temporary refuge and present relief to the ailments of those parties, and supply them at the moment with the needful medicines; and while thus discharging their original functions under the prompting of charity, they furnish, at the same time, the best opportunities for obtaining familiarity with diseases in all their original varieties and subsequent proteiform changes. Foremost among these institutions stands the Pennsylvania Hospital, in which the intelligent student, after seeing and examining the sick occupants of its beds, will listen to the clinical remarks of the attending physician and surgeon, and thus be made familiar with the causes and incidents of disease and the doubts and difficulties of bedside practice in his own future career. To aid him in a further solution of the problem he can, on retiring, take with him a volume from the rich treasures of medical lore in the library of the hospital, and thus compare the experience of an earlier teacher with the observations of the present time. Similar advantages, on a still larger scale, are offered in the extensive wards of the Blockley Hospital, connected with the Alms House, on the western side of the Schuylkill River. Of late years, opportunities for acquiring clinical knowledge have been afforded in the provisional buildings of two new hospitals, the Protestant Episcopal and St. Joseph's. An ample structure for the former will, we understand, be ere long erected, and there are not wanting zeal and liberality to place the latter on an equally stable foundation. Wills' Hospital for Diseases of the Eyes and Limbs bespeaks its objects by its title. So also with the Children's Hospital. The Western Clinical Infirmary, chartered a few years ago, contains fifty beds: it has received the donation of a lot of ground, and measures are in progress for erecting on it a hospital, to be called after the great philanthropist Howard. "The Home for Invalids with Diseases of the Chest," furnishes the means of observing the symptoms and progressive changes of the chronic affections of these organs, especially phthisis. The Philadephia Dispensary, the oldest institution of its kind in the city, presents a good school for the observation of disease in all its chronic and subacute forms, and also for the study of minor surgery. The Northern Dispensary affords similar benefits, both in a curative and clinical point of view.

Each of the medical schools has its dispensary, and limited hospital accommodations. In the first a large number of patients, requiring medical and surgical assistance, is examined and prescribed for, and, when occasion demands, operated on before the class, every Wednesday and Saturday. Each of the two professors on duty at the time takes those cases which come under the heads respectively of medicine and surgery. Patients who are made the subjects of capital operations in the amphitheatre are placed in the beds prepared for the purpose, in the college building. One advantage of these exhibitions is to make the student familiar with the methods of examination and inquiry into the symptoms and causes of the disease, when it is first seen, and of the general outlines of treatment; but the details of which, as demanded in the progress of the case, he is of course unable to follow.

In addition to the means of instruction afforded within the walls of the colleges, availing themselves of which on the part of the students registered in each is an indispensable condition for their receiving the honors of the doctorate, there are others both numerous and valuable offered by private lecturers and teachers on nearly every department of medical science and divisions of medical practice. Of these we may mention practical or demonstrative courses on anatomy, obstetrics, pathological anatomy, microscopic anatomy, operative surgery, pharmacy and materia medica, diseases of the chest, diseases of the lungs and heart, medicine and surgery of the eye and ear: also, lectures on the practice of medicine, instruction in analytical chemistry in the laboratory, and instruction in dental surgery. Examinations in the several subjects taught in the three schools are conducted by quite a number of gentlemen; two, three, or more of whom are associated with each other for the purpose, during the winter.

In conclusion, we would remark, that, although the primary motive for medical students coming to Philadelphia is to attend the lectures delivered in the school of their choice, and the subsequent paramount consideration with them is to obtain a degree, they cannot but be conscious of the value of the collateral and auxiliary means procurable by them for more minute investigations with the aid of a private lecturer, who has made the subject his specialty. For example, histology, physiological and pathological, analytical chemistry in its relations to toxicology and pathology, pharmacy, diagnosis of diseases of the chest by physical exploration, minor and operative surgery, practical obstetricy and study of the organic diseases of females, are learned with most advantage in private courses, in which the students can inspect closely, touch and manipulate for themselves, under the direction of their instructor for the time being. It is true that these numerous appliances for facilitating the acquisition of both theoretical and practical medicine cannot be turned to much immediate account by the great body of students who constitute the classes during their attendance at the different schools, owing to the want of time, pressed as they are to follow, from hour to hour, the several courses of the professors, and feeling themselves obliged to occupy the little time left in a revision of their notes taken in the lecture-room, or, preferably, in a reference to their text-books or other works germain to their immediate subject. But granting all due weight to this fact, it must be a gratifying reflection to the studious crowd, at the end of the winter or regular session, that to those of their number who are intent on a still more intimate acquaintance with one or more of the branches just named, the wished-for opportunities and facilities are at hand. They who are disposed to prolong their stay in the city, or to remain during the entire interval between the regular collegiate courses, will be able to avail themselves of continued clinical instruction in the Pennsylvania and Blockley Hospitals, and, being less pressed for time, they can look, also, into the wards of St. Joseph's and the Protestant Episcopal. A portion of this period will be given to regular attendance on the lectures and demonstrations which can be carried on without interruption during the season. The bill of fare for intellectual nourishment and gratification is varied, and is, at the same time, adapted to the different wants and tastes of the students, according to their previous progress or ultimate views of the branch to which they propose most to addict themselves. They will, if they remain in the city during the entire recess, feel, even still more than when attending the winter lectures in the schools, that they breathe a medical atmosphere, and will learn, in some measure, the reasons, in addition to the abilities of their public teachers, for the prominence which Philadelphia maintains as the great centre of medical education in the United States.

We close this paper with an extract from one of the articles in the *North American and United States Gazette* on our present subject, under date of September 15th, 1856, while cheerfully adopting as our own the sentiments contained in it. The writer, after quoting from Dr. Morgan's discourse respecting the advantages which would accrue to Philadelphia in a pecuniary point of view, continues in the following strain:—

"Other results of a still more gratifying kind, which are not reducible to a pecuniary valuation, ensue from the social relations established between the students of medicine and our citizens, by intimacies which often settle down into enduring friendships, and sometimes lead to a connection of a still more endearing character. For the most part, however, such is the continued strain on the mind of the student, by his attendance on the different lectures and on hospital and other clinical practice, and reading of text-books and works of reference, that he can scarcely allow himself any time for paying or receiving visits or enjoying the pleasures of society.

"Here we may be allowed to assert advisedly that, as a class, the medical students who annually resort to our city, including many who remain here during the whole year, will compare advantageously with the same number of young men selected from the wealthiest and best educated families in any community; and, in persevering and methodical study, to the sacrifice of their comfort, and too often of their health, they go far beyond them. It used to be the fashion to feel or affect a certain amount of dread at the frolics and pranks of the 'Virginia doctors,' a title given to medical students, whether they hailed from Maine or from Louisiana. But if a few wild, and, perhaps, dissipated characters were to give a name to a body of more than a thousand students, young and inexperienced, and for the first time their own masters and their own treasurers, we might, bringing the same rule of proportion to bear, have serious apprehensions of the probity of the trading classes and the piety of our regular church-goers. A slight infraction of the law, or even a serious *melée*, in which a student happens to be the offender, obtains a publicity, in a police report, which a young scapegrace of a citizen, similarly circumstanced, would avoid by the ready bail and propitiatory intervention of a father or other relative or friend. We should be doing injustice to the professors of our different schools, were we to omit to say that they are always ready, so soon as they hear of one of their students being involved in any difficulty, to interpose with their good offices, and to save him from pains and penalties as far as the most liberal construction of the law will allow. It would hardly be worth while to advert to this subject at all, but for the misconceptions sometimes entertained at a distance, in consequence of misrepresentations and exaggerations which we are afraid cannot, in every case, be attributed to ignorance. As regards harmony among the members of the medical classes, we cannot but deem it a peculiarly fortunate circumstance and an evidence both of the sober judgment and good taste of the professors and of the discretion of the students themselves, that from the first medical commencement, in 1768, down to the present day, embracing a period of eighty-seven years, the lecture-rooms have never been the arena of political, sectarian, or sectional discussions or declamations, either on the part of teachers or pupils. Philadelphia, during six months of the year, is the seat of a medical congress, the members of which, students, are delegates for the nonce from nearly every part of the United States. They come on for a specific purpose, and they have neither the time nor the inclination to attend to, or even to think of foreign, and barely of collateral issues. They distribute themselves in the different schools, under the professors whom they prefer, sure that these latter will never obtrude on them their political preferences, their religious creeds, or their crotchets, if they have any, in philosophy or ethics. If, outside of the college walls, the students witness, by chance, a party procession with its banners and divers mottoes, they may regard it as they would any other show, which, once passed, leaves them undisturbed to pursue the even tenor of their way. Sometimes it may happen that, in their quizzing clubs, at their own rooms, after they have examined each other on the several subjects taught in the college a day or two or three days previously, they will, apropos of the mention of a name high in politics, or at the bar, or in the church, and, especially if he be a popular speaker, discuss his merits. On these occasions there is a very natural leaning on the part of each member in favor of the great man of his State or district, and discussions, in a friendly spirit, sometimes originate in consequence."*

Among the medical institutions of Philadelphia, which do not belong to the educational class, and which are composed of graduated and practicing physicians, are the College of Physicians, and the Philadelphia County Medical Society. The first was incorporated in 1789, with a design, as stated in its charter, to advance the science of medicine by steps therein specified, which include a cultivation of order and uniformity in the practice of physic. The Philadelphia County Medical Society was founded in 1849: it is in more immediate connection with the Pennsylvania State Medical Society, by its being empowered to send delegates annually to the meetings of this latter. The old Philadelphia Medical Society, which was instituted in 1789 and incorporated in 1792, was chiefly a debating society, in which papers were read and discussed by the senior members, who were graduates, in the presence and for the benefit of junior members, who as students of medicine and attending lectures had been introduced, after examinations, by a committee appointed for the purpose. This Society, which had been in a great measure dormant for several years, has of late been revived, and at the same time undergone some modifications of its constitution and by-laws.

Resting in a great measure on a scientific basis, and with a purpose indicated by its title, is the Pathological Society of Philadelphia, which, although of recent origin, has already issued many papers and observations of marked worth. It ought to have been a branch, in the form of a Standing Committee, of the College of Physicians—as the Biological Society is of the Academy of Natural Sciences. This last-named body and its new progeny, while cultivating the large domain of natural history and comparative anatomy and physiology, cannot fail to shed light on some of the yet intricate points of human physiology. The Academy has a rich museum and a large and valuable library.

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* We are sure that Mr. McMichael, the proprietor and able chief of the editorial corps of the *North American and United States Gazette*, will not object to our large borrowing, in other parts of this article, from the columns of his influential and conservative paper, without specific acknowledgment. We would add the fact, as coming within our own knowledge, that the whole subject was suggested by him, in his never-failing desire to advance the interests and the reputation of Philadelphia, by exhibiting both her material and intellectual capabilities and resources.

As it did not form any part of our plan to give the history, even in its most abbreviated form, of the medical vagaries of opinion and teaching in Philadelphia, as exhibited in the promulgation of particular creeds, remarkable either for the extravagance of their appeals to credulity and the absence of all the ordinary rules of evidence, or for a limited, one-sided, and exclusive restriction to a part only of the recorded experience based on demonstration in all periods of civilization, and in all climates and circumstances, we have not thought it worth while to make any mention, even in the way of stricture, of the associations or pseudo-schools which inculcate such medical heresies and foster a restless and impatient spirit and ignorant self-sufficiency, adverse to sober reasoning on the largest number of facts, as well as to sound learning and prolonged study and meditation. These last-mentioned requirements for solving difficult problems in science are considered of small moment by the volunteer medicasters, who tamper with the human frame with a freedom and recklessness that would not be thought of, or, if tried, tolerated in the case of the simplest form of mechanism of inorganic matter. The easy, good nature of well-educated men, and some of them members of other professions, is much more conspicuous than their conscientiousness and judgment, when they allow their names to be placed among the trustees or directors of hybrid medical schools, the cardinal doctrines of which rest on fallacies of observation as well as of induction, perilous to human health and human life. We have, already, in a former number of this Journal, expressed our opinions on the subject of women practicing physic, and we see no reason to change or qualify them on the present occasion.

ART. II.—*A Treatise on Medical Electricity, Theoretical and Practical; and its Use in the Treatment of Paralysis, Neuralgia, and other Diseases.* By J. ALTHAUS, M.D. 8vo., pp. 352. London, 1859.

THAT electricity should have been early looked to, as a means from the application of which to the treatment of disease the most important results were to be anticipated, is not at all surprising, when we consider the character of the phenomena which result from the action of this agent under the several forms in which it presents itself. The hope of finding in one or other of the modifications of electricity a therapeutical agent adequate to the cure of some if not all of the morbid states of the nervous system that had hitherto baffled the skill of the most enlightened and experienced physicians, was doubtless rendered more sanguine by the study of its so-called physiological effects—in other words, the phenomena which result from the application of the different forms of electricity to the tissues and organs of the living body in their normal state.

At the beginning of the present century, the importance of electricity in its therapeutical appliances was warmly maintained by many competent authorities, and although a majority perhaps of the medical profession have always entertained strong doubts as to the entire accuracy of the reports in favor of its efficacy as a remedial agent, still we find that during the last sixty years, down even to the present day, there have been not a few eminent practitioners who insist that its efficiency in the cure of those cases of disease to which alone its application should be restricted, is far superior to that of any other of the therapeutic means with which we are acquainted.

There is no doubt that the differences of opinion which still exist in reference to the therapeutical value of electricity, and much of the disappointment which has been experienced in its employment for the removal of certain morbid conditions of the nerves or nervous centres, have, in a great measure, originated from an entire ignorance or an oversight of the all-important fact that the degree, manner, and form in which electricity is applied to the different portions of the living organism, will have an essentially modifying influence upon the results produced.

It is very certain that the proper and successful application of electricity, in any of its forms, for the removal of disease, is by no means so simple a thing as it was supposed to be by the older medical electricians, or as would appear still to be held by those who profess to employ it as a leading agent in the treatment of certain nervous and chronic affections. It is only from a very intimate acquaintance with the entire subject of electricity, but more especially with its effects upon the several organs of the living body, in the normal state of health, in each of its forms, in various doses, and under the different modes in which it may be applied, that we can direct it aright and with any degree of certainty, so as to obtain from it, in any case, its full remedial effects.

It has been shown, beyond the possibility of doubt, that by the application of electricity to the living tissues in their normal state, certain nervous actions, or perhaps to speak with greater accuracy, certain nervoid phenomena, varying in their character, may be produced. These effects of the action of electricity upon the living organism, will differ widely according to its quantity and intensity, to the mode in which it is transmitted to the organs of the body, and to the length of time during which its action is kept up. Hence it is evident, that to enable us to derive any success from the application of electricity to the cure of disease, a series of carefully conducted and sufficiently extended observations must be undertaken, to determine with certainty the class of cases to which it is adapted, the particular stage of each case at which it is to be employed, the manner in which it is to be administered, the degree of its intensity suited to the varying circumstances of disease, the duration of its action, and the frequency of its repetition: whether it should be made to act indiscriminately upon the different tissues—skin, muscles, parenchyma, vessels and nerves—or whether its action should be limited to a single one of these parts; whether its action is to be directed solely to the diseased part or parts, or made to embrace the entire body, or an entire limb, organ, or region. Until these questions are definitely settled, the therapeutical application and value of electricity must necessarily remain subjects of uncertainty and dispute.

A sufficient number of facts have already been recorded by some of the highest authorities in our profession, to warrant the belief that when the exact sphere of its curative powers shall be more fully ascertained, and the proper time and mode of its administration settled, electricity cannot fail to become a most valuable addition to our list of remedial agents: that by it we may be able to relieve, or even to cure permanently, many morbid conditions which, if not all of them of a very painful character, or liable to lead to a speedy extinction of life, invariably cripple the free play of important organs, and limit the powers and usefulness of the individuals afflicted with them. The whole field of medical electricity is still, in great measure, an untrodden one. It is one well adapted to yield a rich harvest to such as have the necessary qualifications and opportunities for its faithful exploration.

A number of observations bearing directly upon the therapeutical value and employment of electricity in various forms of disease are to be found scattered through the medical journals—especially those of continental Europe—through many medical works, in which the subject of medical electricity is incidentally referred to, and in numerous distinct essays, of which it is the prominent theme. These contributions, notwithstanding their intrinsic value, are available to only a small extent for the instruction of the profession generally. To adapt them for this purpose it is necessary that they should be collected together, and faithfully collated, in order that their true bearing and the positive lessons they teach may be correctly appreciated.

Heretofore we have had no reliable systematic treatise on the subject of medical electricity, adapted to the use of the working members of the profession. To supply this want has been the leading object of Dr. Althaus in the preparation of the work before us. So well has he executed his task, so well adapted is the entire treatise, in its arrangement and in the cautious tone by which it is pervaded, in respect especially to all questions of a doubtful or disputed character, connected with the general subject of medical electricity, or to the question of its propriety or the manner of its application in particular cases, that we feel no disposition to enter upon a curious research after any errors the author may have committed, or any omissions with which he may be chargeable; nor do we feel more inclined to controvert either of the positions assumed by him in regard to the therapeutical appliances of electricity, under any of the circumstances of disease to which it is supposed to be adapted. The treatise of Dr. Althaus embraces a very fair abstract of all the leading facts bearing upon the important subject of medical electricity reported by others, illustrated and enforced by a series of clinical observations collected by himself. From no other source accessible to physicians generally can the same amount of positive information be acquired upon all points connected with the remedial use of the several forms of electricity.

The field to be explored in order to the definite settlement of this subject is confessedly one of vast extent. But a short time, comparatively, has elapsed since it was opened to accurate scientific investigation, and this investigation has been entered upon as yet by only a few observers competent to conduct it to a satisfactory solution. Hence, in respect to almost everything relating to the physiological and therapeutical effects of all the forms of electricity much doubt and uncertainty prevail—the entire subject is obscured by empirical statements of the most discordant character, while the attempt to realize in practice the testimony that has been presented in favor of the curative powers of electricity by many of its enthusiastic panegyrists has too often, if not generally, resulted in disappointment, from an ignorance of almost everything relating to the indications the agent is capable of fulfilling, and the rules to be observed in its application to render certain their accomplishment.

Dr. Althaus bears testimony to the good effects derivable from certain forms of electricity, when resorted to sufficiently early and in a correct and systematic manner, in a number of cases of hysterical aphonia, paralysis, neuralgia, and various other affections of the nervous system. At the same time, he is no advocate for an entire dependence being placed in all such cases on electric treatment, to the exclusion of every internal remedy. That some, perhaps, of the morbid conditions of the nervous system may be effectually controlled by electricity alone he is quite satisfied, but, in the majority of cases, he is persuaded that a simultaneous treatment by appropriate internal remedies is of the utmost importance as tending to increase the chances of success.

In the first chapter of the treatise under consideration, the various forms of electricity are described—namely, static or frictional; dynamic, including galvanism and electro-magnetism; and animal electricity, or that produced by the general metamorphosis of matter in the living body.

In the second chapter is discussed the subject of electro-physiology—the physiological effects, in other words, produced by the action of electricity upon the healthy organs and tissues of the living body, according to the form, quantity, or intensity of its application, the mode in which it is transmitted to the part acted upon, the nature of the functions of such part, and the state of its vitality.

The various apparatus employed in the application of electricity in cases of disease, are described in chapter fourth—namely, 1st. Electrization, by bath—that is, by charging the surface of the patient's body with electricity, while he is in a state of insulation—by sparks, and by the Leyden jar. 2d. Galvanization; by the voltaic pile, the batteries of Cruikshanks, Daniell, Grove, and Bunsen; by electro-puncture; as a cautery, by Middeldorpff and Ellis's instruments; as a poultice, by Récamier's method; by Pulvermacher's chains; by the electric girdle and mixture of Breton; as a moxa, after Bird's plan. 3d. Faradisation, that is, the localization of induction currents of electricity. This method of applying electricity has been so named by Dr. Duchenne, in order to connect with it the name of Faraday, by whom the important phenomena of induction currents were discovered.

In the fourth chapter a short notice is taken of electricity as a means of diagnosis. The ensuing chapter is devoted to the consideration of electro-therapeutics, or the employment of electricity for the amelioration or cure of disease, for various surgical purposes, and for the attainment of certain ends in the practice of midwifery. In this chapter is embraced an account of the researches of Fabré-Palaprat, Klenke, Hassenstein, Richardson, Augustus Waller, and the author on the employment of electricity as a means of introducing medicinal substances into the human body, on the one hand, and on the other, the observations of Poey, Sir Humphrey Davy, and Dr. Althaus on the power of electricity to remove metallic substances out of the living body; while in an appendix some remarks are offered on the subject of atmospheric electricity and the influence produced by it upon the living organism in health and disease.

The account given by Dr. Althaus of the several forms of electricity is a very full, satisfactory, and instructive one. It embraces all that is necessary to throw light upon and direct aright its therapeutical application; the whole expressed in a sufficiently concise manner, but one at the same time clear and exact.

Frictional or static electricity was applied to the cure of disease, more especially of paralytic affections, by Kratzenstein, a German physician, as early as the year 1744, and its remedial powers in these cases were assented to by Jallabert, the Abbé Sans, Mauduit, Cavalla, Sigaud de la Fond, and several others, even up to the beginning of the present century.

> "After the discovery of the voltaic pile, (1800,) and especially after that of electricity by induction, (1831,) the medicinal use of frictional electricity has been more or less abandoned, and it is only in the electricity room of Guy's Hospital, under the superintendence of Drs. Golding Bird and Gull, that therapeutical experiments on a large scale have been undertaken with it. Quite recently static electricity has again found a staunch advocate in Dr. Clemens of Frankfort, who has undertaken the irksome task of curing nearly all diseases which exist, by means of electricity. But, generally speaking, frictional electricity may be said to have disappeared from medical practice. This is especially due to the circumstance that a clumsy apparatus is required for its use, that the dose of electricity to be administered cannot be exactly regulated, and that by frictional electricity we are obliged to act indiscriminately upon the different tissues, without being able to localize the stimulus in those parts which require it."

Dr. Althaus concludes that static electricity may be entirely dispensed with in medical practice, presenting as it does, many inconveniences, in no degree compensated for by any advantages to be derived from its employment. Dynamic electricity, on the contrary, appears to him to be the true medical electricity, and it is the form now used almost exclusively in the treatment of disease.

On its first introduction, the galvanic battery was extolled in the most enthusiastic terms as a remedial agent, in cases of deafness, amaurosis, aphonia, hemiplegia, rheumatism, and even in certain forms of insanity. But, as Dr. Althaus justly remarks,—

> "As great as had been the enthusiasm for the newly-discovered remedial agent, was the disappointment which necessarily followed after the unbounded expectations which had been entertained had not been realized. In most of the cases treated by galvanism no success was observed; besides which, the current furnished by the voltaic pile proved to be very inconstant, the use of the battery troublesome and expensive, and by the application of two strong currents, even accidents of a serious character were produced. The confidence in the curative powers of galvanism was, therefore, totally shaken, and the voltaic pile was ranged, together with talismans, amulets, and animal magnetism, among the pharmacopœia of quackery."

In 1825, the employment of the electro-puncture, or the application of the voltaic current, through acupuncture needles inserted into the substance of the organ to be acted on, was suggested by Sarlandière, as a suitable means of administering electricity; and Magendie is reported to have succeeded in effecting by it remarkable cures of paralysis, amaurosis, and neuralgia. Electro-puncture has been proposed for the cure of aneurism, and for cauterization when such an effect is required.

> "Prévost and Dumas, Bonnet, Melicher, and Bence Jones, succeeded in decomposing calculi of the human bladder by means of the continuous current, and Mr. Spencer Wells applied the current of a single pair to promote the growth of healthy granulations and the cicatrization of ulcers. The continuous current as applied to diseases of the nervous system had again gone out of use, being replaced by the induction currents, when Dr. Remak, of Berlin, endeavored once more to prove it a first-rate remedy for those complaints."

The discovery in 1831, by Faraday, of induction currents, caused a new era in the medical application of electricity. The conditions necessary in an induction apparatus suited to the treatment of disease are very fully discussed by Dr. Althaus. After a brief examination of the question, whether the apparatus employed should be a volta-electric or a magneto-electric one, and pointing out the fact that both forms are demanded in the treatment of different cases of disease, he next shows that, first, the doses of electricity administered require to be exactly measured to suit the constitution, age, and sex of the patient operated on: every apparatus, therefore, adapted for medical use must possess a means by which the intensity of the current may be easily increased or diminished.

> "The apparatus must be able to furnish currents of very high tension, or no effect would be produced in certain cases of muscular atrophy and anæsthesia, especially if electricity is to be applied on spots where the epidermis is very thick, as, for instance, on the palms of the hands and soles of the feet; on the other hand, a very mild current is generally required for galvanizing the muscles of the face in paralysis of the portio dura, and for exciting the recurrent nerve in hysterical aphonia."

Secondly, a volta-electric apparatus for medical purposes must furnish both a primary or extra-current, and a secondary current—the first being induced by the action of the spirals of the thick wire upon themselves; while the second is induced in the second wire, which is long and fine. Duchenne directs especial attention to the fact that there is a difference between the physiological action of the extra-current, which he denominates current of the first order, and that of the current induced in the second wire, denominated by him current of the second order.

"According to Duchenne, the current of the first order acts chiefly on the contractile power of the muscles, while the current of the second order acts chiefly on the sentient nerves; and on the retina, when applied by means of moistened conductors to any point of the face or scalp animated by the trigeminal nerve."

Dr. Althaus shows, finally, that another most important point in the construction of an induction apparatus is a suitable contrivance to open and close the circuit of the electro-galvanic current, inasmuch as induction currents exist only on making and breaking the circuit, and not while it remains closed.

We cannot follow the author in his description of suitable induction apparatus and their several parts, nor in his account of the method of applying induction currents invented by Duchenne, and named by him Faradisation. A good instrument and its proper use, at the proper time and in the appropriate forms and conditions of disease, are essential to the successful employment of induction currents as a therapeutic agent. For a sufficiently full and accurate elucidation of these important questions we refer the reader to the work of Dr. Althaus.

The great advantage of Faradisation is, that by it the electricity may be brought to bear directly, and in "proper degree," on the diseased organ or tissue; upon the part whose morbid condition it is our desire to rectify, without endangering any healthy part or organ, or the entire nervous system. By this mode of employing electricity therapeutically, we are enabled to act directly and solely upon the skin, and by so doing to benefit the patient in many cases of anæsthesia and neuralgia; or upon the drum of the ear, for the relief of certain cases of nervous deafness; upon the mucous membrane of the nose, to recall the lost or weakened sense of smell; upon the rectum and muscles of the anus in cases of involuntary stools, and of prolapsus ani, when produced by paralysis of the sphincter and levator ani muscles; upon the bladder and pharyngeal muscles, in cases of paralysis of either of these organs; and upon the larynx in cases of aphonia from loss of power in the nerves and muscular apparatus of this part.

"Direct Faradisation of the heart and the lungs, the stomach and the liver," remarks Dr. Althaus, "is not possible; but stomach, lungs, and heart may be excited indirectly by Faradisation of the vagi, accessible to the electric stimulus through the pharynx and œsophagus. Such operations seem, however, to be more dangerous than useful, so that a conscientious physician will seldom, if ever, consent to employ them. The electric excitation of the diaphragm may easily be produced by Faradisation of the phrenic nerve, which, taking its rise from the third, fourth, and fifth cervical pairs, proceeds downward and inward in front of the scalenus anticus, before it reaches the mediastinum and the diaphragm. The phrenic nerve may be easily excited on the anterior surface of the scalenus anticus. Conductors with large surfaces, viz., sponges lodged in metallic cylinders, are held on the point alluded to, and the artificial respiration is instantly produced; the thorax is expanded and the air rushes into the lungs with considerable noise. By this means it is possible to maintain respiration even some time after death; and it may be easily conceived how important this agent may become in cases of asphyxia, whether it be produced by charcoal fumes, opium, chloroform, or by cholera. In all these cases the first indication is to induce respiration, which is often to save life."

In respect to the use of electricity as a means of diagnosis—especially as a means of distinguishing from each other the several forms of paralysis met with in practice—a subject to which attention was first specially directed by Dr. Marshall Hall—a series of cases are first presented as representatives of the three forms of paralysis resulting from brain disease; namely, that in which the muscles are flaccid, their contractility diminished, and the polarity of the nerves depressed; that in which the muscular contractility is increased, with early rigidity of the muscles, and an irritative lesion of the brain, and that, finally, in which there is no difference to be observed in respect to the contractility of the muscles between those of the healthy and the paralytic limb. Dr. Althaus remarks:—

"We have thus arrived at the result that the muscles of paralyzed limbs may present three different conditions when subjected to the action of the electric current, and that this may enable us to form, in certain cases, the diagnosis of the paralyzing lesion.

"1. If the excitability of the muscles—or rather the polarity of the motor nerves—be *increased* in the paralyzed limb, the case is one of *cerebral paralysis,* connected with an irritative lesion within the cranium.

"2. If the excitability of the muscles be nearly or totally *lost*, we have, in all probability, either *lead-palsy* or *traumatic paralysis;* but it must be kept in mind that certain hysterical and rheumatic palsies of long standing present the same peculiarity; and that it also may be found in cases of diseases of the brain and of the cord.

"3. If *paralyzed muscles respond readily to the electric current,* there is no lead in the system, nor is the connection between the motor nerves of the paralyzed muscles and the cord interrupted; but if such cases are of *long standing*, they are due to *brain disease;* and if they are of *recent standing*, they are generally instances of *hysterical*, *rheumatic*, or *spontaneous* paralysis."

In a very clear and candid examination of the subject of electro-therapeutics, Dr. Althaus has shown by the recorded observations of several distinguished practitioners of Europe, and by a series of cases treated by himself either in King's College, and St. Mary's and the Samaritan Free Hospitals, London, or in the private practice of eminent members of the profession, by whom the cases were intrusted to him for electric treatment, that electricity has been successfully employed as a remedial agent, under various circumstances, in medicine, surgery, and midwifery. That by its curative action certain paralytic and spasmodic diseases, and certain cases of hyperæsthenia and anæsthenia, have been greatly ameliorated or entirely removed. That it has been employed with beneficial results for the discussion of rheumatic callosities. It has likewise been employed, and, it is asserted, successfully, as a means of conveying medicinal substances into the human body, as well as of removing deleterious substances from the living tissues. In respect, however, to the latter effect of electricity there are good reasons for the entertainment of very strong doubt. In surgery it has been resorted to for the cure of aneurism and varices by producing the coagulation of the blood within them; for the dissolution of urinary calculi; for actual cauterization; for the treatment of ulcers, and for effecting the absorption of exudates; and in proof of its entire adaptedness for each of these purposes, facts have been adduced of a very striking character. In midwifery electricity has been shown to be useful, occasionally, as a stimulus in cases of tedious labor from uterine inertia, and in certain forms of uterine hemorrhage.

It is in cases of paralysis, however, that electricity has been found, perhaps, most efficient as a therapeutic agent. In hemorrhage of the brain, as well as in atrophy and softening of the cerebral substance, it is true, injury rather than benefit will be the result of the application of electricity—nor is there any propriety of its employment in that form of paralysis dependent upon morbid growths within the cranium. Nevertheless, in the course of paralyses, even such as were originally produced by some lesion of the brain, the application of electricity may be found decidedly beneficial.

"When," remarks Dr. Althaus, "there has been merely an effusion of blood, the symptoms are rather caused by the clot compressing and separating the cerebral substance than by destruction of brain tissue, although it is quite true that hemorrhage into the brain is almost always accompanied with a certain amount of rupture of brain fibres. In cases where the symptoms of paralysis are prinpally caused by a clot, the patient's health may be perfectly restored. At first, the fluid parts of the blood effused into the brain are absorbed, and an organized membrane, a cyst, is formed around the clot, which in the course of time is likewise absorbed. The cyst then shrinks up, and at last only a cicatrice is to be found. In a certain number of cases this process of reparation is accompanied by a gradual amelioration of the paralytic symptoms, and thus a spontaneous recovery may take place. In other instances, by the gradual shrinking of the cyst, an irritative condition is kept up in the brain, and the paralyzed muscles then assume a rigid condition. Finally, the cicatrice may have been formed, and there may be no rigidity of the muscles, while the paralysis still continues in a more or less degree. Now, when there has been an extensive laceration of cerebral substance, and when by the shrinking of the cyst rigidity of the paralyzed muscles is induced, the paralysis depends upon central injury, and an electric treatment would only tend to aggravate the symptoms. It is also evident that if symptoms of spontaneous amelioration are observed, there is no need of electricity. But if we have reason to believe that the cicatrice has been duly formed, and nevertheless the paralysis continues, the electric current may be employed with a fair chance of success, and should be localized in the paralyzed motor nerves and muscles."

Dr. Althaus includes, also, among the palsies which are scarcely ever amenable to the influence of electricity, those dependent upon a diseased condition of the spinal cord. Recent cases of this character will be aggravated, he remarks, if treated by electricity.

In answer to the question, how is it that electricity or galvanism acts beneficially in paralytic diseases, Dr. Althaus lays down three general propositions, namely:—

"*First.* The galvanic stimulus is capable of disturbing the molecular equilibrium of the motor nerves and muscles, so as to produce the state in which they are physiologically active. This disturbance, if judiciously produced, does not cause any injury, but tends to re-establish or to ameliorate the lost or impaired vitality of the motor nerves and muscles.

"*Second.* The galvanic stimulus allows the necessary alternate contraction and expansion of the muscles, without which their nutrition is generally soon seriously impaired.

"*Third.* The galvanic stimulus, by producing contractions of the muscles, and thus augmenting the chemical changes in—that is, the oxidation of—the muscular tissue, causes a more abundant supply of arterial blood to it, which is evidenced by an increase of heat and bulk in those parts which have been galvanized, and which in its turn augments the nutrition of the muscle."

In other words, electricity or galvanism acts as a remedial agent in paralysis by restoring the lost mobility to the molecules of the nerves and muscles, and by causing contraction, and a more considerable supply of arterial blood to the paralyzed organs.

Dr. Althaus lays it down as a leading proposition, covering all cases, that in the treatment of paralysis by electricity, only inductive currents should be used. These consist of great and sudden variations, and are therefore capable of exciting the vitality of the motor nerves to the highest degree.

In respect to the direction in which the induced currents should be sent through the paralyzed limbs, there is some difference of opinion among the leading authorities on the subject. Some are in favor of their being sent in the direction which the electric current travels in the human body,—this has been termed the direct current. Matteuci, on the contrary, advocates the sending of the induction current in the opposite direction—the inverse current. Both modes—the direct and the inverse current—may be employed. In many cases of paralysis the inverse current excites much stronger contraction in the muscles than the direct; hence, to Dr. Althaus it appears justifiable to prefer it in most cases. He believes, however, that the direction of the current should be changed now and then, as, by the continued passage of a current always in the same direction, the motor nerves and muscles are more fatigued than if the position of the poles be sometimes reversed.

The intensity of the currents must be adapted carefully to the circumstances of each case. A very gentle current always should be employed at first, and the intensity of the current gradually increased until, if possible, decided contraction of the paralyzed muscles is produced.

The duration of each application of electricity must be left to the judgment of the operator. Some cases require a much longer continued application of electricity at each sitting than others. Generally speaking, Dr. Althaus believes that the continuance of the electric current should not be prolonged beyond fifteen minutes each time. The number of applications required will vary, also, in different cases. Cases of hysterical paralysis not unfrequently are entirely cured by the application of electricity repeated only a few times. Dr. Althaus cured a case of hysterical aphonia, and two of amenorrhœa, by a single application. In cases of wasting palsy—Cruveilhier's atrophy—the application of electricity must be repeated a very great number of times in order to arrest the disease and improve the condition of the patient.

Among the particular forms of paralysis which, according to Dr. Althaus, are suitable for the employment of electricity, and in which its remedial powers are most favorably displayed, are enumerated cases of palsy from lesions of the brain, when attended with entire relaxation of the muscles; provided they have continued for six months, with only imperfect recovery of muscular power; local palsy of the muscles of the eye, in cases where the disease is traceable to over-exertion or to want of exertion; palsy of the facial nerve from rheumatic effusion into the cellular tissue, between the facial muscles and the exterior branches of the portio dura, when of any standing; hysterical aphonia; most of the cases of local palsies of the extremities; hysterical paralysis; rheumatic paralysis; lead palsy; the paraplegia arising from diseases of the urinary organs, recently described by M. Leroy d'Etiolles and Mr. Spencer Wells, when it persists after the removal of the cause; wasting palsy—Cruveilhier's atrophy; intestinal atony giving rise to obstinate costiveness, and often to tympanitic distention of the abdomen; paralysis of the bladder, when not the result of disease of the brain or spinal cord.

Besides these cases of local paralysis, in the treatment of which electricity in the form of induction currents has been found to be a valuable remedy—generally relieving and often removing entirely the palsy of the muscles, when judiciously employed—Dr. Althaus notices the use of electricity as a therapeutic agent in amenorrhœa. By the application of static electricity, Dr. Bird reports the cure of twenty out of twenty-four cases of suppressed menstruation; other successful cases of the use of the continued current in this affection are recorded by Drs. Westring and de Molle: while the induced current has proved successful in the restoration of menstruation in the hands of Duchenne, Schulz, Baierlacher, and the author of the treatise under review. Of course, in cases of amenorrhœa resulting from structural disease of the ovaries or uterus, there is no indication that would warrant the administration of electricity.

In cases of an arrest of lacteal secretion by mental emotion, etc. a few applications of induction currents have caused, we are assured, the milk to reappear. The application to the mammæ of the currents is to be effected by means of moistened excitors. Cases of this kind have been observed by MM. Aubert and Becquerel.

According to Dr. Althaus, spasmodic and convulsive diseases are much less amenable to electricity than paralytic affections, inasmuch as they generally result from irritative lesions of the nervous centres. If, however, the convulsions are merely local, electricity, he thinks, deserves a trial. The most rational mode of application is said to be by sending a constant continuous current, of a certain intensity, through the affected muscles, especially in the inverse direction. Duchenne recommends the application of induction currents to the antagonists of the affected muscles. Finally, electricity of high tension can be administered as a counter-irritant to the surface, a method which has been successfully resorted to, especially in cases of chorea. Thirty-seven cases of the disease, treated by electricity applied according to the last-described method, are reported by Dr. Bird; of these, thirty were completely cured. Dr. Gull has likewise added his testimony to the curative powers of electricity in chorea.

In what is termed "writer's cramp," an affection of the muscles of the right hand, brought on often by emotion, anxiety, rheumatism, over-exertion, etc., and by wounds of the radial or ulnar nerves, the effects of electricity have been spoken of favorably. In some of the cases the disease is of a spasmodic character. The fingers, and especially the thumb of the right hand, being strongly flexed upon the palm whenever the patient attempts to write. In other cases there is palsy of the short extensor and adductor of the right thumb, and of the abductor of the forefinger, in consequence of which the pen, in writing, cannot be held steadily, while the fingers slip away from it. When the case is one of a spasmodic character, Dr. Althaus states that a continuous current applied to the flexor muscles is the appropriate treatment; but when paralytic, Faradisation is to be resorted to. In five cases of the paralytic form electrically treated by him, three were completely cured and two benefited. Even in these he thinks it probable that a cure would have been effected, had the patients been willing to submit sufficiently long to the treatment.

In cases of spasmodic wry-neck, occurring especially in adults, Dr. Althaus states that electricity of high tension, employed as a counter-irritant, and induction currents methodically applied to the antagonists of the affected muscles, have resulted in the production of an amelioration or entire cure.

In respect to the treatment of tetanus by electricity, we have not a sufficient number of well-attested facts to warrant the offering of any positive opinion.

In cases of hysterical cramps and contractions, which are of frequent occurrence and always troublesome to manage, there is reason to hope for the best results from the employment of electricity.

In the various forms of local anæsthesia, such as loss of smell, amaurosis, nervous deafness, loss of taste, etc., electricity, as we have already remarked, has been recommended as a most efficient remedy. In such cases as depend upon disease of the nervous centres, and of the sentient nerves, the direct current, as Dr. Althaus correctly remarks, can be of service only after the original lesion of the brain or nerve has subsided. The chances of success, he adds, are greater when the anæsthesia is idiopathic, of rheumatic or hysterical origin, or produced by poisoning.

Speaking of the treatment of neuralgia by electricity, Dr. Althaus says:—

> "If neuralgia is caused by wounds of the nerves, by inflammation, hypertrophy, or cancer of the neurilemma, electricity cannot be expected to cure this affection; the same is the case if neuralgia originates in inflammation, caries, exostosis of the bony canals through which the nerves pass, or in diseases of the nervous centres, or in morbid states of the liver, uterus, ovaries, kidneys, etc. But if the neuralgia appears to be merely a morbid exaltation of sensibility without structural changes, or if it be caused by rheumatism, the Faradic treatment may be resorted to with a fair chance of success."

It is impossible for us, with the restricted space at our command, to follow our author, even in the merely outline manner in which we have thus far presented his views in respect to the therapeutic uses of electricity, in the entire extent of the exposition he has presented of the subject, in the remaining sections of the treatise under review.

With respect to the possibility of the introduction of medicinal substances into the human body by the aid of electricity, first suggested by Fabré-Palaprat, in 1833, and reaffirmed by Dr. Klenke, in 1846, and Hassenstein, in 1853, Dr. Althaus has no faith.

By Fabré-Palaprat it is asserted that he cured a case of sarcocele of seven years' standing by causing iodine to penetrate into the tumor by the aid of galvanism; that he cured a case of ague by quinine introduced by the same means into the body; that he cured himself of "ecstatic spasms" by galvanism, and cured other patients, suffering from blindness, apoplexy, inflammation of the bowels, epilepsy, tænia, monomania, etc. Dr. Klenke also relates a great number of more or less intractable diseases cured by the galvanic application of medicinal substances. Thus, cases of struma were cured by the galvanic introduction of iodide of potassium, cases of syphilis by the galvanic application of sublimate, etc. All of these statements are as destitute of proof as they are wanting in probability. They are either totally rejected, or held as of extremely doubtful authority by the profession generally.

In the early part of 1859, Dr. Richardson, of London, proposed the employment of electricity in connection with the application of narcotics, to produce local anæsthesia during surgical operations. For this purpose, he used Pulvermacher's chains, and a solution of equal parts of tincture of aconite and chloroform. In this manner, he asserts, he produced such a degree of anæsthesia as would permit of severe operations being accomplished with little or no pain. In a series of experiments published by Dr. Waller, one month subsequently to those of Dr. Richardson, it was shown that the application of a mixture of equal parts of tincture of aconite and chloroform to the human skin for ten or fifteen minutes would, of itself, produce a loss of vascularity and nearly complete anæsthesia; a result which is, however, neither accelerated nor retarded by the use, at the same time, of electricity. The anæsthesia which follows the application of the mixture referred to is confined exclusively to the part on which the application is made, being produced evidently by its local absorption. By this absorption, Dr. Waller has shown that death may be caused in animals, and possibly, also, in infants and children. The action of the narcotic mixture, with or without the application of electricity, when applied to the healthy skin, is likewise attended by a severe local inflammation of the most obstinate character, from which dangerous complications would be liable to be introduced into surgical operations.

"In an experiment which I have performed upon myself with chloroform and galvanism," remarks Dr. Althaus, "I found that anæsthesia was produced if a sponge saturated with chloroform was held to the skin for ten minutes, and that the connection of sponges with the poles of a battery did not sensibly accelerate the action. The pain felt about an hour after the experiment was very severe; on the following day an inflammation ensued which passed into suppuration, which continued for nine days. The pain continued very severe, and occasionally prevented sleep; the cicatrices were formed slowly, and earlier on those spots where only the chloroform had been applied, while cicatrization was very tardy on the spots where chloroform and electricity had been directed. This observation is not favorable to Dr. Richardson's idea of voltaic narcotism."

In the application of electricity to the cure of aneurism, by producing coagulation of the blood contained in the aneurismal sac, Dr. Althaus directs a platinum needle, connected with the positive pole of a galvanic battery, to be thrust into the centre of the sac, and the circuit to be closed by applying a metallic plate, connected with the negative pole, to the surface of the tumor. Bunsen, Grove, or Daniell's battery of twenty pairs, feebly charged, will be sufficient. The currents should be kept up for not less than twenty minutes.

"The drawback to his operation," as Dr. Althaus observes, "is, that it causes a great deal of pain, and that inflammation of the edges of the puncture, and of the skin covering the aneurism, may follow, and even gangrene might be the result. Besides, M. Broca has drawn attention to the fact that the clot formed by galvanism is rather soft, and liable to be dissolved, as it consists of fibrin and globules, while other clots are exclusively formed of fibrin, and are therefore very hard, and tend to rapid organization.

"M. Pétrequin, of Lyons, has cured a traumatic aneurism of the temporal artery, and an aneurism which had been produced by bleeding on the arm, (1845.) Since that time other successful cases have been published; but it is true that such aneurisms easily cede to pressure or ligatures. The galvano-puncture of aneurisms is especially to be recommended in such cases, where the other methods cannot be conveniently applied, on account of the seat of the tumor.

"A very remarkable case of aneurism has been published by Mr. Eyre, in the *Lancet* for July, 1853. In this case not the continuous, but the interrupted (induced) current was beneficially applied. It was an aneurism of the external iliac artery; a pulsating tumor in the left groin of the size of a fowl's egg; the pulsation was very strong, and accompanied with a bruit which could be traced two inches above the tumor; the limb was swollen and painful. Needles connected with the poles of an induction apparatus were thrust into the sac, and a current sent through it for a certain time. Alarming signs of inflammation supervened some time afterwards; and it was not until seventeen days after the operation had been made, that the tumor felt harder, and the pulsation became fainter; while, if the continuous current had been used in the manner described above, the tumor would have become solidified before the withdrawal of the needles. In the case described by Mr. Eyre, electricity acted merely as an excitant, and the sac was closed in consequence of irritation and adhesive inflammation, but not by chemical action. As suppuration may easily supervene in such cases, the employment of induction currents for the cure of aneurisms is, generally speaking, not justifiable."

Electricity has been employed, and, it is said, with good results, by a few French, German, and English obstetricians, to originate uterine contractions in cases in which the induction of premature labor is considered advisable; to increase the expulsive efforts of the uterus in cases of tedious labor; and to produce firm uterine contraction in cases of hemorrhage from the womb. By Professors Simpson and Scanzoni, however, the use of electricity in midwifery is considered as of very little value. They believe that in those instances in which uterine action has been apparently excited by electric agency, it has been either a mere coincidence, or it has resulted from the impression made on the mind of the patient, or been produced by mechanical irritation of the uterus, or of the abdominal parietes by the electrodes. The recent experiments of Dr. Mackenzie would seem, nevertheless, to show that, in cases of placenta prævia, when the profuse hemorrhage cannot be controlled by the plug or other means usually employed, until a sufficient dilatation of the os uteri has occurred to admit of manual assistance, as well as in cases of uterine hemorrhage occurring during the early months of pregnancy, which resist all other treatment, and where a resort to manual or mechanical interference is prevented by the constricted condition of the os and cervix uteri, electricity in the form of induction currents will prove invaluable. It is very certain that the very limited number of cases in which electricity has been employed during pregnancy, parturition, or during the puerperal state, as a therapeutic agent, are insufficient to enable us to arrive at any satisfactory conclusions as to its actual effects, or the circumstances under which its application is admissible or otherwise. From the facts collected by Dr. Althaus, and presented in the treatise before us, we draw the general conclusion, that the number of cases of disease, as well as the accidents of a surgical and obstetrical character, in which the therapeutic agency of any of the forms of electricity may be invoked, with some certainty of beneficial results, are extremely limited; while the trouble, the time, the apparatus, and the extreme care necessary for its proper administration, will necessarily operate against a resort to it, even within the narrow range of cases to which it is adapted and in which we may expect it to exert remedial powers.

Dr. Althaus has very correctly pointed out the impropriety of condemning electricity as a therapeutic means, from its occasional failure to do all the good that was expected from its judicious employment in cases and under circumstances which, to all appearance, were those best suited for the exhibition of its curative powers. The same disappointment is constantly experienced in the use of every other known remedy.

In estimating the true value of electricity as one of the materia medica the important fact is to be taken into consideration that, in very many of the instances in which it has been recommended for the cure of disease, it has been only after every other remedy had been tried without success, and when the disease had been of such long standing as to afford but little hope of ultimate recovery under any plan of treatment. What beneficial results might be obtained in certain affections of the nervous system, if the electric treatment were resorted to in an earlier stage of the complaint, may, Dr. Althaus thinks, be inferred from a perusal of the chapter in the work before us, where the effects of Faradisation in a number of cases of hysterical aphonia are detailed. He shall, he remarks, be especially gratified if he succeed in inducing a more frequent recourse to the electric treatment in certain forms, also, of neuralgia, which defy all other therapeutical means, but which are wonderfully under its control.

While, however, electricity may be resorted to in many cases, and with the very best results, as an excitant of muscular power in paralytic diseases, and of sensation in anæsthesia; as a means, also, of subduing spasm, as well as of reducing morbid increase of sensibility, as in neuralgia; it must be kept constantly in mind that, inasmuch as neither paralysis, spasm, neuralgia nor anæsthesia is of itself a well-defined disease, but merely a symptom of disease, and dependent, in different cases, on lesions of the most different and, occasionally, opposite character, electricity cannot be applied to all cases indiscriminately, in which either of those symptoms is present; to do so, as was the case formerly, is calculated, in consequence of the mischievous effects that must necessarily occur when its use happens to be under improper circumstances, to bring medical electricity into disrepute and to deprive us of the good we may have just reason to expect from its proper and appropriate administration.

In the foregoing notice of the treatise of Dr. Althaus, all that we have attempted to accomplish is to indicate in general terms the nature of its contents, and the leading views in respect to the value of medical electricity, so far as this can be ascertained from the observations bearing on the subject that have been heretofore recorded. To understand correctly the true rank which electricity now occupies, and that to which it is destined to rise or fall, as its remedial powers and the field of its applicability shall hereafter be more fully and accurately investigated and determined, it is requisite that the treatise of Dr. Althaus should be thoroughly studied as the exponent of the present state of our knowledge in respect to the subject; and from this task no one can rise without instruction on a department of therapeutics as yet but little understood and appreciated by the great body of medical practitioners. From no general notice, no brief analysis, can any correct idea be formed of the obligations which the profession owe to the author, as well for the collection and arrangement of the scattered materials necessary for the elucidation of the subject of medical electricity, as for the very able, faithful, and candid manner in which he has executed the work. Recommending the treatise earnestly to the notice of our readers, we shall conclude our brief and imperfect review by presenting the following, which are its concluding sentences. They contain an important caution to all who may feel inclined to test by clinical observations the correctness of the statements made by the author.

> "In conclusion, a few words may be said on the accidents which may be caused by an injudicious application of electricity. This powerful agent is not one of those remedies which, if they do no good can do no harm; but, on the contrary, it may, in the hands of an inexperienced operator, do a great deal of mischief. Thus blindness has been caused by the application of the continuous current to the face in paralysis of the portia dura; fainting, cramps, hysterical fits, and palsies have been produced by administering too powerful currents; and fresh apoplectic attacks have been induced in patients who had suffered before from hemorrhage into the brain. Accidents of this kind can only be avoided if the operator is guided by physiological knowledge and sufficient therapeutical experience. In this remedy more than in any other the mode of application has an all-important bearing upon the results, for it is not electricity that cures diseases, but the physician who may cure diseases by means of electricity."

ART. III.—*The Diagnosis, Pathology, and Treatment of the Diseases of the Chest.* By W. W. GERHARD, M.D., one of the Physicians of the Pennsylvania Hospital, Fellow of the College of Physicians, Member of the American Philosophical Society, etc. Fourth edition, 8vo., pp. 448. J. B. Lippincott & Co.: Philadelphia, 1860.

IT affords us much pleasure to announce to our readers the appearance of this new edition of a work which has been so long and so favorably known in this country. The name of the distinguished author has been closely identified with the diagnosis, pathology, and treatment of the diseases of the chest for upwards of a quarter of a century, and we know of no one who is more thoroughly conversant with the subject than he. Educated in the School of Louis, Dr. Gerhard became early enamored with the study of thoracic diseases, and while yet quite a young man effected some very important discoveries which soon made his name extensively known both at home and abroad.

The work of Dr. Gerhard, originally published in lecture-form, comprises the results of a large clinical experience, and may be regarded as exhibiting a very full digest of the existing state of the department of science of which it treats. The present edition, as stated in the preface, has been thoroughly revised, carefully corrected, and much enlarged, about one hundred pages of new matter being introduced. Important additions have been made to the sections on pneumonia, phthisis, and cardiac diseases.

The author has devoted considerable space to the use of cod-liver oil in phthisis, and as his experience is large and valuable, we shall transfer here his principal conclusions respecting an article which has received so much attention during the last fifteen years in the treatment of this relentless malady.

Dr. Gerhard prefers altogether the light-colored oil, as it is better borne by the stomach, as well as more nutritious, than the brown oil. It is generally easily taken before meals, its most pleasant vehicle being milk, though its taste is most effectually disguised by the froth of porter. The existence of diarrhœa is no contra-indication to its exhibition. Its use increases the flesh, weight, and strength of the patient, but to be of any decidedly permanent benefit, the exhibition must be steadily persisted in for a long time.

"Within the last ten years, since these earlier observations upon cod-liver oil were made, my experience in its use has been very large, and enables me to speak positively on many points which were formerly somewhat doubtful.

"First. Is cod-liver oil as good a remedy in the management of phthisis as it was thought to be? My own settled conviction is, that the oil is one of the best nutrients that can be given; in that way it antagonizes phthisis to a certain degree, and sometimes puts a radical check on the disorder; but I do not believe that its properties depend upon any specific virtue. It is simply introducing into the system a large quantity of fatty matter, thus directly opposing the formation of tubercles. Indeed, I have sometimes thought that in those rare cases of phthisis in which there is little or no emaciation, cod-liver oil does not act so kindly as in those patients who assume the peculiarly thin and emaciated aspect of regular consumptives.

"Secondly. Cod-liver oil is not tolerated well during the hot months, in our climate. Patients are often obliged to abandon its use, or at any rate to restrict the quantity, during the summer; they may often resume it again when the weather becomes cool, and the powers of digestion are increased. The difficulty of taking it during the hot months depends entirely upon the extreme nausea which it then causes; if the patient does digest it well, he may cautiously continue it even in intense heat, but he should at once abandon it if his power to digest it becomes enfeebled.

"Thirdly. The remarks already made as to the use of the darker-colored oils have also been thoroughly confirmed. In Philadelphia, as in most other parts of the United States, there is now scarcely any other oil than the light-colored given—that is, either the livers of the fish are prepared very soon after they are obtained, or else the oil must be so purified as to destroy the offensive taste and aspect of the dark-colored variety.

"Fourthly. Patients can frequently continue the use of the oil for a long period; but after their stomachs have become thoroughly disgusted with the medicine, it will be found almost impossible for them to return to it. It is true that a temporary cessation of this remedy may cause the stomachs of the patients to be so much relieved that they can resume its use, but this resumption is but temporary. They are rarely able to return to it again as a permanent plan of treatment, after they have once been completely disgusted with it. Hence I rarely attempt to persist in its administration when unequivocal evidence of disgust on the part of the patient is exhibited.

"Fifthly. The employment of cod-liver oil has to a certain degree diminished. Physicians who resorted to it under the conviction that it was a sure remedy for phthisis have been disappointed in the results obtained from it. Many of them therefore have very much abandoned this medicine; the error with them however is, that they have expected too much from it, and finding themselves to a certain degree deceived, they have neglected a valuable remedy. The worth of it remains, although this was exaggerated by the overweening expectations of its early advocates."

Of the use of the different phosphatic salts, first proposed by Dr. Churchill, now of Paris, in the treatment of phthisis, the opinion of our author coincides with that of nearly all the more experienced and trustworthy practitioners of this and other countries. We have long been satisfied that their value was chiefly imaginary, an undue importance having been attached to these remedies by the fact that they have received the sanction of a few distinguished physicians on this side of the Atlantic, whose influence has been sufficient to turn the heads of many of the lesser lights of the profession. But we will allow the author to speak for himself.

"Another mode of treating phthisis which has attracted much notice within the last few years is the use of different phosphatic salts, given in connection with one another. These are the phospates of iron, soda, lime, and potash. This plan was proposed by Dr. Churchill, and was founded on the supposition that the addition of these salts to the blood would enable it to withstand the tendency to tuberculous deposit. I have been chiefly in the habit of giving these salts simply mixed with water, directing the patient to shake it up before taking it, so as to suspend the phosphate of iron, which is of course insoluble. The mixture is made according to the following formula:—

"℞.—Sodæ phospat, ʒiv; Calcis phosphat, ʒij; Potassæ phosphat, ʒi; Ferri phosphat, ℈ij; Aq. Rosæ, ℥vi.—M.

"S. A teaspoonful after breakfast and dinner, first shaking the bottle. If the substance is well shaken, the phosphate of iron may be of course sufficiently suspended to be taken in a proper dose.

"Mucilage should not be added, as it would soon spoil. My friend Dr. Jackson has been in the habit of giving the same medicine in syrup, making a more uniform and prettier preparation, but one which I do not like so well as a simple suspension of these salts. If, however, this preparation should be preferred, the best mode of making it is one given by Mr. Parrish in the Am. Journ. of Pharmacy for 1857, vol. xxix. p. 572.

"The use of these phosphates became very general in Philadelphia, but has much diminished within the past year or two. This comparative disuse of them has arisen simply from the doubt that remained in the minds of those who employed them as to their utility. The iron produces, of course, its usual effect; but whether the phosphoric acid is really taken into the blood, and deposited in quantities sufficient to cause the absorption of tubercles, or their conversion into calcareous matter, seems to me very doubtful. It has been also supposed that by absorption the phosphorus is diffused throughout the whole body, and to a certain degree antagonizes the process of emaciation. I have never been able to convince myself with certainty that this good result had occurred; and although I still occasionally use the preparation, I do so with a doubt whether any good effects follow from it."

With these extracts and remarks we close the book before us, regretting that our limits will not permit us to indulge in further comments. The work is one of sterling value, and no American library can be complete without it.

ART. IV.—*Gustaf Von Düben's Treatise on Microscopical Diagnosis.* With 71 Engravings. Translated, with additions, by LOUIS BAUER, M.D., M.R.C.S., Eng., etc. 8vo., pp. 82. New York: John Wiley, 1859.

As a means of anatomical research, assisting the eye in the investigation of form and structure, the microscope has effected a very important work in the advancement of medical science within the past twenty-five years. It has, for instance, by disclosing the intimate construction of the several tissues, and of different products, such as pus and lymph, both enabled and obliged authors to employ greater precision of language than they did before they possessed this knowledge. It has exhibited to us the material agents by which most of the functions of life are carried on, and has thus brought us at least a step toward the comprehension of those actions themselves.

The early advocates of microscopy were led by their enthusiasm to claim far too much for their favorite instrument; they thought it would supersede in a great degree other means of diagnosis, and in their haste they took ground which by riper experience was shown to be untenable. An experienced microscopist becomes acquainted, in gaining his experience, with the various forms which are brought under his notice, and learns to distinguish them from one another. An inexperienced microscopist can only hope to acquire diagnostic skill by the same accumulative process. Hence we think that the title of the work before us could only be properly applied to a comprehensive survey of the minute anatomy of the human body and its parasites, in health as well as in disease. The mere use of the microscope in diagnosis, we take it, would be too narrow a subject to form the basis of a treatise.

But even in this little volume of seventy-six pages, the offspring of the labors of Von Düben, Tutschek, and Bauer, many matters are introduced which are far from relevant to its alleged purpose; others, of great importance to the reader, are omitted. Thus we are told (p. 32) that:—

"In reference to microscopical diagnosis, milk may become the object of interest in two ways.

"1. The relative proportions of the milk-constituents.

"Since Donné, Zettwach, and Girard have ascribed to the collostrum* corpuscles in the milk obnoxious effects upon the suckling, they have been the subject of close examination. It should, however, be borne in mind, that a few collostrum corpuscles physiologically occur in the milk for some time after childbirth, without at all vitiating its nutritious or wholesome character. But a large number of those elements would be evidence of congestion or inflammation of the mammary gland." (Even had this been proved, as it has not to our knowledge, we think that such evidence of these disorders would be altogether unnecessary, in the presence of much more important signs.) "In some diseases of nursing women, the collostrum corpuscles generate in great abundance. Thus in rheumatism, exanthemata, and typhus lactantium. In the last, according to Lehmann, are occasionally found regular exudation corpuscles, with traces of fat granules.

"The presence of collostrum corpuscles in large numbers is important evidence of recent parturition, and therefore of great moment in a forensic point of view.

"2. Abnormal substances in the milk.

"It is said that after contusions of the mammary gland the milk shows red blood corpuscles and fragments of blood-clots and pus cells in incipient mammary abscess. We have never observed those elements, whereas we have met in the latter instance with collostrum corpuscles four months after confinement. Nor have we any positive idea as to the obnoxious results of those abnormal elements upon the infant. Their observation may, however, assist in forming an early diagnosis of incipient abscess.

"In Wagner's Encyclopedia of Physiology we read, vol. i., page 470, 'Sometimes the milk, after having been exposed to the action of atmospheric air, assumes a *blue*, but rarely a yellow color, beginning at the surface and gradually extending over the whole liquid. When examined by J. Fuchs, he found infusoria to be the cause of discoloration; vibrio cyanogenus being in the blue milk and vibrio xantogenus in the yellow. The infusoria themselves are stated to be colorless, but they possess the quality of discoloring milk.'

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* The spelling and punctuation are as in the original.

"In red milk C. Nægeli has observed Protococcus. As far as known cancer cells have as yet not been found in the milk; whereas mammary cancer occasionally gives rise to the secretion of normal milk and collostrum. In a cancerous tumor of the breast, removed by Dr. Svalin, the Author had an opportunity of confirming the last-mentioned fact in addition to the development of milk secretion as demonstrated by Lammerts Van Bueren."

The vague and unpractical character of these remarks can hardly require comment; they afford a fair sample of the rest of the volume. Urinary sediments, the microscopical diagnosis of which is really important, are disposed of in six pages and a half. Dr. Bauer promises in his preface to "evade" the use of technical terms; yet we find "sporotrych-development," "lumen," "neoplastic," "urate-infarcts," and other equally formidable expressions, introduced as if they were household words.

Those of the profession who desire to use the microscope, and, as we have already remarked, its utility as a means of research is very great, are much in want of a volume in which they may find the information necessary to them as beginners. Many failures and a long course of wearisome effort must precede their attainment of an available degree of facility even in the manipulation of the instrument and its accessories. Much of this might be avoided were a book at hand which should give suitable instructions for beginners. Such a work should be more exclusively medical than the admirable treatise of Dr. Carpenter, less costly than that of Quekett, more comprehensive than that of Robin, and more practical than that of Beale. The Micrographic Dictionary, valuable as it is, cannot be generally possessed on account of its high price, and its contents are of necessity arranged in a way unsuitable for a manual.

The production of such a book would require much labor, since many parts of the subject would have to be condensed as much as possible; but it would render an essential service to medical science, and the profession would doubtless extend to it a practical welcome.

ART. V.—*An Essay on Hernia.* By JAMES BRYAN, M.D., Professor of Anatomy in the New York Medical College, and formerly Professor of Surgery in the Medical Colleges of Castleton, Geneva, and Philadelphia. 4to., pp. 14. Philadelphia: F. I. Pilliner, 1860.

WE have not had time to examine this work sufficiently to justify us in offering a critical opinion respecting its merits. That the author is well qualified for his task is evinced by the fact that he has been in the profession, in active practice, for upwards of a quarter of a century, and that he has for many years been a teacher of anatomy and surgery. The present number comprises fourteen pages of letter-press, accompanied by a magnificent plate illustrative of the anatomy of inguinal hernia. Four more fasciculi are to complete the work, one being promised every month, at the low price of fifty cents.

Original Communications.

ART. I.—*Cases from the Surgical Clinic of the Philadelphia Hospital.* Service of Professor GROSS.

Reported by EMIL FISCHER, M.D., of Philadelphia.

I. *Case of Large Tumor of the Left Labium; Excision.*—Susan P., a colored woman, twenty-six years of age, married, was admitted into the surgical wards of the Philadelphia Hospital, in January, 1860, on account of a large tumor of the left labium. The swelling was noticed by the patient for the first time about two years and a half ago, when it had attained the size of a walnut. Since then it had undergone a steady and gradual enlargement, growing as it seemed at first in length, but increasing of late principally in circumference. On examination the tumor was found to be nearly of the size of an infant's head, of an ovoidal form, larger below than above; it occupied the left labium descending from between the vagina and the tuberosity of the ischium nearly to the middle of the left thigh; it did not seem to have any connection with the pelvis, and felt like a smooth, firm, and elastic body. The skin covering it was perfectly normal. Pressure of the tumor produced some uneasy sensation in it, but otherwise the patient did not complain of any pain, and was merely annoyed by a feeling of weight and tension in the affected parts. Her health had always been excellent.

The tumor, which was evidently of a non-malignant character, was assumed to be of the fibrous kind. Extirpation having been decided upon, the patient was put under preparatory treatment, consisting of rest, diet, and a dose of purgative medicine.

On the twenty-fifth of January, Professor Gross proceeded to remove the tumor before his class. The patient being under the influence of chloroform, and all hair having been shaved off the labium, she was put in the position for lithotomy. Supporting the tumor with his left hand, Professor Gross made two incisions about five inches in length on the inside and on the outside of it, including an elliptical piece of skin, the widest part of which was at the bottom of the tumor, and separating it from the surrounding cellular tissue, partly by careful dissection, partly by using the handle of the scalpel and the finger, removed it completely. The hemorrhage was but slight, and was easily arrested, no ligatures being required. After the bleeding had completely ceased, the margins of the wound were approximated with silver sutures, with the exception of the lower part, into which a tent was inserted.

The woman was ordered to take a dose of morphia, and the cold-water dressing was applied to the wound. On the second day, the patient suffering from some fever, the saline and antimonial mixture was prescribed. Some days afterwards suppuration having been established, and the discharge becoming rather offensive, the parts were dressed with Labarraque's solution. The fever following the operation was but slight. No bad symptoms occurred, and the wound is now healing well and rapidly under the use of appropriate applications.

Examination of the tumor.—The tumor weighed about three pounds and a half, and consisted of a large fleshy mass with a somewhat elastic feel, and a smooth and even surface. On making a section of it, a clear limpid fluid oozed out, which coagulated spontaneously. It was composed principally of a succulent, yellow substance, resembling fat, and intersected with opake white bands. Its infiltrated condition gave it very much the appearance of œdematous cellular tissue. Professor Gross pronounced it to be a cellulo-fibrous tumor, an opinion which was corroborated by microscopic examination.

Remarks.—The parenchyma of the labia, said Professor Gross, is liable to become the seat of various new formations, such as encysted, fibrous and cellulo-fibrous tumors, scirrhus, and encephaloid.

Fibrous tumors do not always originate in the vulva, but may commence to grow from a point deep in the pelvis, appearing at the vulva, only after having made their way from a considerable distance. If they are developed in the substance of the labia, they may attain a considerable volume, owing to the elasticity and dilatability of the tissues of these parts; they may distend the labium enormously, elongate it, and drag it downward to a greater or less extent. They are generally free from pain, and become troublesome only by their weight and size. The skin covering them is, in most cases, perfectly normal. If the tumor is, however, very heavy and voluminous, it may be accompanied by excoriation and ulceration of the skin of the labium. In cases of this kind, the tumor itself may become the seat of inflammatory action, and, undergoing softening and ulceration, may give rise to an abundant discharge of pus. Fibrous tumors of the labia, like those of the uterus, contain not unfrequently small cavities, resembling cysts, which are filled with a gelatinous, sanguinolent, or a clear, serous fluid, or with earthy matter. This peculiarity of structure is met with particularly in tumors of large size, and seems to be the cause of their rapid growth.

The *cellulo-fibrous* tumors, of which the preceding case affords an example, are considered by some pathologists as a softer and more elastic form of the fibrous tumor. They consist essentially of fibro-cellular tissue, infiltrated with a serous, or more or less viscid fluid. Cases of removal of immense cellulo-fibrous tumors have been recorded by Messrs. Lawrence, Liston, and others.

Upon the origin of fibrous tumors, and their mode of development, pathology has as yet thrown but little light; some authors believe that they take their rise in small effusions of blood which have not been completely absorbed. Professor Gross regards them as local hypertrophies, or enlargements, produced by inflammatory action. Experience shows that they are frequently developed during pregnancy, and that this state exercises a marked influence upon their growth; the menstrual period seems to affect them sometimes in a similar manner; the tumor has often been observed to increase perceptibly during the time of the menstrual discharge, and to diminish again after its cessation. The diagnosis of fibrous and cellulo-fibrous tumors must mainly be deduced from their history and their consistence. Their relatively very slow development, their comparative hardness, their uniform consistence, the absence of pain, and the normal state of the integuments covering them, serve to distinguish them from cysts or from cancerous tumors. Sometimes, however, the diagnosis may be rendered more difficult, owing to the suppuration or mortification which is liable to occur in growths of very large size, and the true nature of the tumor can only be ascertained by microscopic examination.

Fibrous tumors of the labia are rarely amenable to local or constitutional remedies. In the early stage of their development, a mild course of mercury may be tried, and alternated with the use of iodide of potassium, also an agent of some consequence in the softer forms of more recent fibrous growths; frictions with ointments containing mercury, iodine, or bromine, and stimulating embrocations or fomentations may be ordered. But the surest remedy is extirpation, which should always be advised when the tumor becomes a source of annoyance to the patient. The operation is generally of easy execution, and, owing to the loose condition of the cellular tissue of the labia in which the tumor is imbedded, it can, in most cases, be readily removed by enucleation. Some surgeons have advised total amputation of the diseased labium, but this dangerous procedure could be justified only in cases where the nature of the tumor is suspicious, or where the labium has undergone excessive elongation. In the latter case an embarrassing length of the flap can, however, always be avoided by including a sufficiently large piece of skin in the elliptical incision, with which the extirpation is usually commenced. It will be well to remember, in this connection, that the skin of the labium, even after very great enlargement, is still capable of considerable retraction. More recently, tumors of the labia have been removed by means of the écraseur. M. L. Paravicini reports a case in the *Ann. Univ. Agosto e Sett.* 1858, in which he used this instrument successfully for the extirpation of an atheromatous cyst of the size of a hen's egg, which occupied the lower two-thirds of the labium.

Encysted tumors are occasionally met with in the labia. They attain various sizes, and may even become as large as an infant's head. They are circumscribed, more or less fluctuating, firmer than œdema, but not as hard as fibrous tumors. Churchill describes them as being semi-transparent. This is by no means always the case, as the nature of their contents is very variable, and they are covered with more or less cellular tissue when they are deep seated. The skin covering them is rarely changed in color; in some cases, however, it has been found of a bluish or of redish-brown hue. Encysted tumors consist generally of but one cavity, which is filled with fluids of various character; the contents may be a serous, glairy, puriform or dark-colored liquid; sometimes they are more or less solid. The symptoms produced by encysted tumors of the labia are likewise referable solely to their situation and size; it is only when they are attended by inflammation they may give rise to more troublesome effects. Encysted tumors may be caused by a fall or blow on the soft parts a long time antecedent to their formation. Another species of cyst is owing to certain morbid alterations of the vulvo-vaginal gland of Bartholini, as described by *Huguier*, in his work, *Des maladies des follicules vulvaires et de la glande vulvo-vaginale.* These cysts are either owing to distention of the excretory canal and its ramifications, the orifice of which has become naturally or accidentally obliterated, or, which is more frequently the case, they are developed in the lobules of the gland, the follicles of which have ceased to communicate with the excretory duct, and have become more or less dilated. Owing to their development out of the glandular structure, these cysts assume sometimes curious forms, being ramified, and sending out processes. The vulvo-vaginal cysts occasion generally but little functional trouble. In some women, however, the cyst may become turgid and congested during menstruation, and may attract the attention of the patient by its increased volume and tenderness until it regains its former indolence with the cessation of menstruation. In other cases the cysts become more painful and voluminous after excessive fatigue, or coitus; and if these causes continue to operate, they may give rise to inflammation in the cysts and the surrounding cellular tissue, and produce an abscess of them and the vulvo-vaginal gland. The diagnosis of encysted tumors cannot always be made out with accuracy, although in the majority of cases their benign character is sufficiently apparent, and their consistency and the presence of fluctuation serve to distinguish them from fibrous tumors. Cysts of the labia are sometimes liable to be mistaken for inguino-labial or pudendal hernia, as described by Sir A. Cooper. Either of these tumors may occur in the same situation, and their touch is equally soft and elastic; on more accurate investigation, however, the distinct symptoms of the more serious affection of the two are found to be absent, for the cyst does not swell or become enlarged on coughing, and the swelling cannot be traced upward into the abdominal ring, or into the cavity of the pelvis. Mr. Ashwell mentions a case in which the diagnosis remained uncertain, until an explorative puncture was made, and the escape of some sanguinolent mucus removed all doubt. Encysted tumors of the labia can seldom be cured by any other than by surgical treatment. When the tumor is large the most certain plan is to dissect out the entire cyst, care being taken not to leave the slightest remnant, otherwise reproduction will be certain to occur. If the tumor is superficial and of smaller size, or if in consequence of the exudation around it, it adheres so intimately to the surrounding cellular tissue that enucleation must be renounced, the cyst may be opened by a large incision, its contents evacuated, and the cavity filled with lint smeared with an irritating ointment, or cauterized with nitrate of silver, or acid nitrate of mercury. Other eligible modes of treatment are to insert a seton through the tumor so as to produce suppuration, or to employ iodine injections in the same manner as in hydrocele of the vaginal tunic of the testicle.

Fatty tumors are not rarely developed in the parenchyma of the labia, especially in the vicinity of the mons veneris, and may rapidly grow to a considerable size. In other respects they have all the characteristics of fatty tumors in other parts of the body, and require the same mode of treatment.

Scirrhous and cancerous tumors may occur sometimes as a primary affection in the labia, but have more frequently their seat in the nymphæ or the clitoris; at other times they are but secondary and accompany analogous affections of the uterus and vagina. Cancer of the vulva presents the same character and symptoms as that of the uterus and vagina, and requires essentially the same treatment, but permits, on account of its situation, a more energetic employment of local measures than the former.

II. *Cases of Fistule of the Anus; Operation; Cure.*—1. Alexander

B., twenty-six years of age, a laborer, was admitted into the surgical wards of the Philadelphia Hospital, in January, 1860. The patient is a man of robust constitution, strong muscular development, and florid complexion. He is intemperate in his habits, and suffers from habitual costiveness; his health is in other respects generally good. About six years ago he noticed a small, hard swelling at the left side of the anus, which gave rise to much pain, especially during defecation; for several days the swelling increased in size, and finally burst, giving him immediately great relief. The abscess did not close up, and has been discharging ever since an offensive purulent matter, mixed sometimes with blood. On examining the patient, Professor Gross found the opening of the fistule at the distance of about eight lines from the anus, on its left side. A probe passed into the orifice penetrated to the depth of about one inch and three-quarters, and was found to emerge from an opening in the mucous membrane of the bowel, situated about four lines above the verge of the anus. The skin around the external opening was discolored and tender.

Operation.—The patient was put on low diet; a dose of castor-oil was administered the day previous to the operation, and the bowel was washed out with tepid water. A grooved director was inserted through the fistulous passage into the rectum, and its extremity brought out at the anus, and placed against the opposite buttock. A curved bistoury was then passed along the groove of the director, so as to divide rapidly the superimposed structures.

After the operation a thin tent, well oiled, was inserted into the wound, one end of it being passed some distance up the bowel to insure its retention. A compress was applied over the parts, and the whole retained by a T-bandage. The patient having been put to bed, a grain of morphia was administered to allay pain and to keep the bowels at rest for the succeeding forty-eight hours. On the third day a dose of castor-oil was administered. Under the use of the water-dressing, the wound filled up readily with healthy granulations, and is now, about two weeks after the operation, nearly cicatrized.

2. Francis K., fifty-four years of age, a carpet-weaver, was admitted into the surgical clinic of the hospital, in January, 1860. The patient is of thin, slender form; he is said to be temperate in his habits, and has been commonly in good health. His bowels act with regularity, and he has not suffered from hemorrhoids. The patient complaining of a slight cough, his lungs were examined, but no evidence of tubercular disease could be detected. About seven years ago he suffered from an abscess on the right side of the anus, the formation of which he ascribed to having been exposed to cold and wet. The swelling soon burst, and during the whole period which has elapsed since, there has

been almost constantly a discharge of thin pus, and sometimes, when the bowels were in a relaxed state, of fecal matter or of gas, through the opening. On examination, the parts around the anus were found to be indurated and discolored; about one inch to the right of the anus an opening existed, surrounded by a small papillary mass of granulations; a probe introduced into it passed to a distance of about two inches and a quarter. On inserting the left index finger into the rectum the point of the probe was felt protruding through an internal opening situated about half an inch above the verge of the anus.

The patient having been put under preparatory treatment, the fistule was completely laid open in the same manner as in the first case. The after-treatment was also conducted upon similar principles. The sore healed up slowly but steadily, and the cure is now, three weeks after the operation, nearly complete.

Remarks.—In presenting the two cases reported above to his class, Professor Gross made the following remarks on the disease of which they were an illustration:—

By fistule of the anus is meant an abnormal track extending from the rectum to the skin. The immediate cause of the complaint is an abscess formed in the loose cellulo-adipose tissue around the lower part of the rectum, which bursts externally near the anus, and leaves an opening for the discharge of matter indisposed to heal. The lower bowel having been more or less extensively detached from the surrounding structures during the suppurative process, a sinus is formed in this way, which burrows close to the outer surface of the mucous membrane of the rectum; the latter, constituting but a thin barrier between the sinus and the interior of the bowel, finally is perforated by ulcerative action, and thus is formed a passage which admits, in many cases, of the escape of gas, mucus, and fecal matter from the interior of the rectum to the surface of the skin. When a communication of this kind exists, the case is called one of *complete* fistule. If, on the other hand, the wall of the bowel retains its integrity, the abnormal track extending merely from the skin to its outer surface, then the fistule is incomplete, and is called, in reference to its situation, an *external blind fistule.* Professor Gross believes that a fistule of this kind is much more rare than is commonly assumed, and that in many cases, supposed to be of this nature, the surgeon, either from want of dexterity or other causes, is unable to detect an opening in the rectum, when one is actually present. This view receives support from the opinion of so high an authority as Sir B. Brodie, who even stated, in a valuable lecture on this subject, (*Lancet,* 1843-4, vol. i.,) that he is satisfied that the inner opening always exists. Still rarer than the external blind fistule is what is described in books as *internal blind fistule,* that is, a cul-de-sac extending from the rectum or ano-rectal cavity into the subjacent cellular substance without perforating the common integument. In many cases apparently of this nature, there may exist originally a complete fistule the external opening of which has closed for a short time, the spot being indicated by redness and induration; but sooner or later it reopens, and the discharge returns, or a fresh opening is formed at some distance off. It may happen, however, that the original ulcerated opening in the rectum being large, the matter from the abscess formed in the cellular tissue outside finds its way so readily into the bowel that the abscess does not burrow toward the surface. Cases of this kind are of very rare occurrence.

Anatomy of fistule.—Although fistule of the anus is a very common disease, and apparently very simple in its nature, still there are some points in the anatomy of the disease which require the particular attention of the surgeon, and without a complete knowledge of which he will be unable to conduct the treatment successfully. The points to be considered in this connection are the internal orifice of the fistule, its external orifice, and its course.

In the great majority of cases there exists but one *internal orifice;* in rare instances, however, several of them may be present. In the case of a gentleman, twenty-four years old, of Ripley, Mississippi, whom Professor Gross treated for this disease in 1855, there were four distinct internal openings, about half an inch above the verge of the anus, two on the left side, one in front, and one on the right side. It is of high importance, in regard to the successful management of a case of fistule, to ascertain whether the internal opening is single or multiple; but this information is by no means always easily gained. The presence of several internal openings may be suspected, especially when the abscess has been large, when the rectum has been separated to a considerable height from the surrounding tissues, and when the opening of the abscess has been deferred to a very late period. In regard to the situation of the internal orifice very erroneous opinions have been entertained until a comparatively recent period; it was generally searched for as high up as two, three, or even four inches from the margin of the anus, and the patient was consequently subjected to a rather dangerous and difficult operation. The observations of Sabatier, Larrey, and Ribes, which have been confirmed by those of Chelius and Sir B. Brodie, have, however, clearly shown that the inner opening, in the large majority of cases, is situated immediately above the junction of the mucous membrane and the common integument, or rarely higher up than three, four, or five lines from the verge of the anus. In searching for the internal orifice, the probe must therefore be directed toward the lower end of the rectum. Occasionally the orifice is a little higher up, and in a few rare instances it has been known to be ten, fifteen, or even eighteen lines above the verge of the anus; but examples of this kind are exceedingly rare. The shape of the internal orifice is circular or ovoidal; its size rarely exceeds a line in diameter.

The *external orifice* is subject to a greater diversity, in regard to number and situation, than the internal orifice. Though it is more frequently single, instances are not rare in which a number of external openings exist; sometimes these are situated only a few lines from each other; at other times, at a distance of several inches, although they may correspond with but a single internal orifice. Professor Gross has a specimen in his private collection in which there are as many as seven external openings, giving the cutaneous surface quite a cribriform aspect. The external opening is generally situated at the side of the anus, at a distance varying from half an inch to several inches. Occasionally it is found in front toward the scrotum, and sometimes, though rarely, directly over the extremity of the coccyx. Its shape is usually very irregular, and its size varies in different cases, from that of a pin-head to that of half a dime. Its site is generally indicated by a small mammillated mass of granulations, or by a small reddish point, perhaps not larger than a flea-bite, and quite tender to the touch.

The fistulous *track* which is left after the abscess has burst and its walls have contracted, varies considerably in regard to its situation and direction. Most commonly it is situated at the side of the rectum, but sometimes it lies in front of it, or near its posterior wall. Experience has shown that the wound made by the operation generally heals more readily when the fistule is situated at the side of the anus, than when it corresponds with the median line. This difference is explainable by the anatomical disposition of the parts. The fistulous track forms with the rectum an angle which is the more acute the nearer the external opening is to the anus, and the higher up the internal orifice is situated; occasionally, however, a fistulous passage is met with which is nearly horizontal in its direction, and which opens into the rectum at a right angle. The fistulous track may be either straight, curved, or tortuous; in some cases it may even form an angle in one part of its course, so that the introduction of a probe into its whole length is rendered difficult, or even impossible. In order to pass a probe, under such circumstances, into that part of the fistule which is next to the rectum, it may become necessary first to divide the side of the angle which terminates in the external orifice. The length, size, and shape of the fistulous track are just as variable as its direction. While in some instances it is but a few lines long, and hardly large enough to admit the finest probe, in others it is several inches in length, and so capacious as to permit the passage of the largest instrument. Its shape may be cylindrical, slit-like, or flattened. Instead of a single track, two, three, or more may be present; they generally communicate with each other laterally, although they may all concentrate at one internal orifice. An illustration of this arrangement is found in the *horseshoe fistule* described by Curling, in which there is an external orifice, at each side of the anus, leading to fistulous passages which pass to the back of the rectum and communicate with the gut at this part by a single orifice, so as to give the fistule the shape of a horseshoe. Experience seems to show that the fistulous tracks are most numerous and most extensive when the fistule is associated with stricture of the bowel. In external blind fistule the track terminates above in a pouch or hollow, which is sometimes quite capacious from the great destruction of the cellulo-adipose tissue around the gut. Soon after its formation, the fistulous track is lined by a layer of lymph which, in time, is transformed into a smooth, adventitious membrane, closely assimilating itself to the mucous membrane of the bowel. When the disease is of long standing, the sides of the track are often dense and callous.

The *discharge* of the fistule is generally a thin, purulent fluid. It is more or less copious in different cases, and varies at different times, sometimes becoming so thin and scanty that the patient thinks himself near a cure, until a fresh irritation is set up, and the complaint becomes as troublesome as before. In complete fistule the track gives, occasionally, vent to flatus, and to fecal matter.

Condition of the parts in the neighborhood of the fistule.—In the different kinds of fistule which may form in its vicinity, or communicate with its interior, the rectum is commonly more or less separated from the surrounding tissues. Sometimes it is denuded, but to a trifling extent; at other times the separation implicates a large part of the circumference of the gut, and extends so high up that even that section of the rectum contained in the small pelvis may be completely isolated. Such extensive separations are always serious in their consequences, and may be even fatal. It is worthy of notice, that the inner orifice of the fistule is situated, most frequently, not at the highest point of the denuded part, but a considerable distance below it, and that, in order to establish a cure, it is not necessary to carry the knife higher up than that orifice. The cellular tissue and skin for a considerable distance around the fistule are generally more or less indurated, hypertrophied, discolored, and tender in consequence of chronic inflammation, which is kept up particularly by the passage and retention of mucus and feces in the parts more immediately implicated in the disease. The skin is sometimes undermined to a large extent. Small abscesses are developed, discharging thin, unhealthy matter. The sac formed by the loss of the cellular tissue around the fundament becomes the receptacle of pus and fecal matter, giving thus rise to fresh annoyances, attended with fetor and inflammation, and leading to new abscesses and additional passages; defecation is painful, the bladder is irritable, and the patient finds it difficult to sit, or to ride on horseback, and is unable to walk much. Even when the seat of the disease is free from inflammation and tenderness, he is annoyed by a constant discharge, which stains the linen and keeps the parts uncomfortably moist.

The *general health* of the patient afflicted with anal fistule deserves much attention; sometimes it is not impaired to any perceptible degree; in other cases, however, there is considerable emaciation, with gradual loss of strength, and the suppuration is very abundant, and accompanied by fever; all these symptoms may be caused by the local disease, there being no serious lesion of any of the internal organs present. Under these circumstances, the operation is plainly indicated. It is different, however, when the emaciation, the fever, and all the other symptoms are the consequence of some organic disease, and the fistule is merely a coincident affection, as, for instance, in phthisis. Experience has shown that in cases of this kind the operation hastens the progress of the internal disease, and expedites the fatal termination. Believing the establishment of a fistule in consumptive persons an effort of nature to stay the morbid process going on in the lungs by drawing off the irritation from these organs, Heurteloup has even proposed to make an artificial fistule in cases of pulmonary phthisis, by means of instruments invented by him for this purpose. His plan of treatment has found, however, no imitation, as it is useless, and subjects the patient to unnecessary annoyance.

Diagnosis.—The diagnosis of anal fistule is founded upon the history of the case, the course and nature of the preceding abscess, the absence of those symptoms which are proper to perineal fistules and fistules resulting from caries of the bones of the pelvis or spine, and finally upon the symptoms peculiar to the disease. They are the following: If the fistule is complete it gives occasionally vent to gas, and the purulent or sanguinolent discharge from it is often tinged with fecal matter; a probe, cautiously introduced into the fistule, will come in immediate contact with the finger inserted into the rectum; when the fistule is so tortuous or angular that the sounding of it is difficult and unsatisfactory in its results, an injection of milk or some colored fluid may be made into it, a part of which will come back through the anus. The external blind fistule is distinguished from the complete by the absence of the symptoms which indicate the perforation of the rectum. When the fistule is an internal blind one, the patient discharges pus through the anus; in the neighborhood of the latter an indurated place will be found, in the middle of which there is often a red, soft, compressible, sometimes prominent, at other times depressed part; on pressure upon this spot, a small discharge of matter is frequently effected by the anus, and sometimes the expulsion of air from the cavity of the abscess into that of the intestine may be distinctly felt, or clearly heard; the stools, particularly if hard and requiring force for their expulsion, are sometimes smeared with matter; the patient is rarely perfectly free from a dull kind of uneasiness, especially if he sits for any considerable length of time in one posture; on defecation the swelled parts become occasionally the seat of heat and pain. On introducing the finger into the rectum, the internal orifice may sometimes be detected.

The *examination* of the parts in a case of anal fistule should be conducted with great caution and gentleness. When they are much inflamed and tender, they should be brought into proper condition for the examination, by rest, leeches, iodine, astringents, and anodyne enemata. The morning previously the bowel should be washed out well with tepid water. The best instrument to conduct the exploration is a common pocket-probe. The patient may be examined lying on the side, or stooping over a table or chair, or, better still, resting on his knees and forearms. The probe is inserted, well oiled, through the external orifice, which is, as previously stated, generally situated in the middle of a small papilla on the skin. The left index finger, being in the rectum, feels for the point of the probe, and thus assists in guiding it to the internal orifice of the fistule, provided this is present, or against the side of the gut, when the fistule terminates in a cul-de-sac. In passing the instrument, it is best to give it a considerable inclination toward the anus, the usual situation of the internal orifice being just within the sphincter. The manipulation should be performed without the use of the slightest force, as the cellular tissue around the rectum is so loose and yielding that, without care, a passage may be made where none existed previously. If much difficulty is experienced in detecting the internal orifice, use may be made of the speculum, and, if necessary, of an injection of milk into the external orifice, as mentioned before; the appearance of the fluid at some spot on the mucous membrane will indicate the situation of the internal orifice.

Etiology.—The causes of abscess, and consequently of fistule of the anus, are very various. Habitual costiveness and hemorrhoids have a great influence in the production of the disease. Sometimes an external injury, or the lodgment of some foreign body, which may penetrate through the mucous membrane of the bowel and sphincter muscle into the cellular tissue, may give rise to inflammation, abscess, and fistule. The disposition of the pouches of the rectum, which are wide and deep, and open from below upward, as well as the resistance of its sphincters, serve to detain hard, pointed, or irregular bodies which have been swallowed, such as a fish-bone, a pin, a kernel, etc. In some cases ulceration of the rectum, originating from chronic dysentery, syphilitic disease, or tubercular deposits, may cause perforation of the bowel, and consequently abscess and fistule; but such cases are very rare, and in most instances the perforation is the secondary lesion, following upon inflammation and abscess of the neighboring tissues. It has long been a common belief in the profession that consumptive persons are particularly prone to the formation of fistule, but this doctrine is not borne out by facts. According to the statements of Andral and Louis, who have investigated this subject extensively, anal fistule is rarely met with in phthisis. Age seems to exercise some influence upon the formation of the disease. Occurring at all periods, it is most common in middle-aged persons, childhood and old age being almost exempt from it. Professor Gross has, however, witnessed it several times in young children, and in one case in a girl only three years and a half old. Recently he treated a boy, six years old, at the clinic of the Jefferson Medical College, in whom the disease began at the age of nine months. After the age of fifty it is very rare, while after that of sixty it is almost unknown, which, probably, is owing, in a great measure, to the relaxed condition of the rectum and sphincter in old people, rendering the mucous membrane less liable to irritation. The disease is more frequent in men than in women, but in what ratio has not been ascertained. Judging from his own experience, Professor Gross is inclined to look upon the difference as very marked, for, while he has seen a large number of cases in the male, he has met with very few in the female. His practice having always been pretty equally divided between the two sexes, he is sure that the difference could not be accidental. The cause for this unequal distribution of cases among the two sexes is unknown. The influence of occupation is not marked, as the disease occurs in all classes of persons—in laborers, farmers, mechanics, merchants, and professional men. It is generally assumed that individuals who are in the constant habit of standing, or riding on horseback, are particularly liable to the disease; but if this be the fact, the experience of Professor Gross does not go to substantiate it.

In considering the immediate cause of fistule, the question arises why an abscess in the neighborhood of the anus does not close spontaneously after the discharge of its contents, but leaves a fistulous sore. The anatomical disposition and function of the parts serve to explain this circumstance. If it is considered that, from the looseness of the skin, the action of the elevator and sphincter muscles, and the movements of defecation, the diseased parts are subjected to constant disturbance, the persistence of a sinus after purulent formations is not at all astonishing; and even without this interference, the occasional escape of a little feculent matter into the passage, in cases where the fistule communicates with the interior of the rectum, would be amply sufficient to prevent the closure of the parts. The tendency of abscess of the anus to the formation of fistule can be counteracted only by an early and prompt treatment of the primary affection.

Prognosis.—From what has been stated above, it may be presumed that fistule of the anus rarely heals spontaneously; indeed, the disease may continue for an indefinite period, unless cured by operative interference. Anal fistule was formerly considered a dangerous and unmanageable disease; but this opinion is no longer entertained, since the anatomy of the disease and the causes which keep it up are more accurately understood, and a simple as well as rational mode of treatment has been adopted. It is hardly necessary to mention that the prognosis is subject to modifications which depend upon the varieties of the disease and the different circumstances under which it occurs.

Treatment.—Different methods of treatment have been proposed for the cure of fistule of the anus, such as compression, irritating injections, cauterization, excision, the seton, and division; the last two operations are alone practiced at the present time by professed surgeons; the other methods have been rejected as useless, and even obnoxious, and are only occasionally adopted by ignorant empirics or charlatans. The most efficient operation consists in the division of the parts intervening between the inner and outer orifices, including the fibres of the external sphincter. Professor Gross considers the following the most eligible mode of operating: A grooved director is inserted into the abnormal track, its extremity brought out at the anus, and placed against the opposite buttock, when the superimposed structures are divided with the knife, passed along the groove of the director. In this manner the operation may be performed in a few seconds, and without the slightest risk of doing injury to the rest of the bowel. When the fistule is very short, Professor Gross sometimes carries a narrow probe-pointed bistoury through it, and effects its division in that way, counter-pressure being made against the extremity of the instrument by the finger in the rectum. When there is no internal orifice, as when the fistule is a blind external one, an opening must be made into the bowel at the usual height with a sharp-pointed director, when the parts are divided as in the former case. In those rare cases in which the fistule is a blind internal one, the sac in which it terminates below must be laid open with the knife;

the fistule is thus rendered complete, and may be treated in the usual manner. When the track is of long standing, and incrusted with organized matter, the cure will be rendered more certain, as well as more rapid, by notching its bottom, or scraping away the adventitious matter. In those cases where several external openings exist, leading to different sinuses communicating with each other, each of them must be divided, so as to make one cavity of the whole. If there are two internal orifices on the same side, situated at the usual height, they should, if possible, be included in one incision; if this is impracticable, the upper one may be divided in the usual manner, and the lower one be laid open into it. Should the upper orifice, however, be situated high up, it is advisable to operate only upon the lower one, trusting that the upper one and its sinus will close after the sphincter has been rendered inactive. A cure can, however, not be relied upon under these circumstances; and as a long incision into the rectum is dangerous, on account of hemorrhage, it will be better to use the seton in cases of this description. When there is a greater number of internal openings, situated at different parts of the bowel, the employment of the knife would hardly fail to be followed by loss of power in the sphincter muscle; the treatment by the seton is then indicated.

The loss of blood, resulting from the operation described above, is but slight, and rarely amounts to more than a few drachms; whereas, in the old process, where the knife was carried several inches above the anus, the hemorrhage was quite profuse and even fatal. Considerable bleeding may be, however, occasionally observed in cases of long standing, where great induration of the parts exists, and the vessels are unable to retract into the condensed cellular tissue. The hemorrhage can, under these circumstances, generally be controlled without difficulty by exposure of the wound to cold air, and the application of pounded ice, astringent lotions, or compression.

The treatment after the operation consists in inserting a slender slip of oiled lint, one end of which is to be passed up several inches at the opposite side of the bowel, and the other end laid across into the wound. A compress and T-bandage are then applied, and the patient is put to bed. The bowels, which should have been made to act freely before the operation, are not to be disturbed for two or three days afterwards, and for this purpose a full dose of morphia or opium should be administered. At the end of this time a mild laxative or enema may be prescribed. The dressing after this period should be renewed every day. The wound commonly closes readily by granulation, and the functions of the sphincter are unimpaired.

The operation by the *seton* for the cure of fistule was originally proposed by Hippocrates and Celsus. Having been out of use for a long time, Foubert brought it again before the notice of the profession, and Desault invented instruments to apply it in cases where the internal orifice is situated very high up. The substance employed by Professor Gross for making a seton is silk twist, about the thickness of common twine; he inserts it by means of a silver probe, very slender, and about two inches and a half long. The ends of the ligature are secured over a small button, having two holes at opposite points, and are tightened once every second or third day until it cuts its way out, as it usually will in less than a fortnight. The advantage of this treatment is, that it is almost free from pain and does not interfere with the occupation of the patient, as he is able to walk about, having merely to pay attention to cleanliness, to his diet, and the state of his bowels. For reasons already stated, the seton is preferable to the knife in cases where the internal orifice is located unusually high up, or when there is a greater number of internal orifices situated at different parts of the bowel. In a case of the latter description, previously adverted to, Professor Gross inserted not less than three setons, and had the satisfaction of effecting a complete cure in less than a month. The seton may find its application also in cases complicated with serious organic disease of the lungs, heart, or liver, where the use of the knife is contra-indicated on account of the danger which would attend the sudden arrest of a habitual discharge. In the majority of cases, however, it will be the safest plan either not to interfere at all with a fistule occurring in a consumptive person, for fear of hastening the progress of the internal affection, or, if an operation is indispensable on account of the local suffering, to establish an issue upon the chest.

If an operation for this or other reasons must be renounced, the patient may be rendered comparatively comfortable by attention to his diet and bowels, and the observance of cleanliness.

III. *A Case of Scirrhus of the Mammary Gland; Suppuration and Sloughing of the Tumor, and Final Cicatrization.**—Margaret Sweeny, fifty years of age, a cook, unmarried, of dark complexion, and middle stature, was admitted into the surgical wards of the Philadelphia Hospital, in November, 1859. Previous to the time when her breast became affected her health had been good, and her menstrual function had been performed regularly until about four years ago, when it ceased.

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* In obtaining the history of this and other cases, we are indebted to the kind assistance of Drs. B. S. Wood, Lodge, and Goodman, Resident Surgeons of the Philadelphia Hospital.

Her parents had died of old age. About eight years ago she discovered a small hard lump, of the size of a bullet, in her right breast, some distance above the nipple. The tumor was occasionally the seat of sharp, shooting pain, which, however, was so slight that she did not pay much attention to it, and continued at her occupation. For five years the enlargement of the swelling advanced very gradually. About three years ago, when the tumor had attained the size of a walnut, the skin covering it became discolored and red, the swelling rapidly increased, and became the seat of violent pain, which disturbed her rest at night; for several days these symptoms augmented in severity, and the tumor finally burst. The patient dressed the parts with a bread and milk poultice. After the discharge had continued for five weeks it ceased, the opening closed, and the patient followed her occupation as usual. From that time the same symptoms recurred at intervals of about four or five months, and were each time followed by a discharge lasting several weeks. At the beginning of October, 1859, the tumor, which was about as large as a hen's egg, became the seat of insufferable pain; the affected breast was seized with violent inflammation, and soon swelled to twice its natural size; in the middle of October the skin over the tumor burst, and a copious and fetid discharge ensued. On the nineteenth of November, when the patient was admitted into the hospital, the skin, including the nipple of the affected gland, was found to be destroyed extensively by ulceration; the sore had a foul, unhealthy appearance, and was the seat of sloughing; the discharge from it was of a sanious nature and extremely fetid; the affected breast was hard, inflamed, exquisitely tender, and the seat of a violent pain, which was increased on the slightest movement of the arm; the patient suffered from high fever, and was very much emaciated.

The diseased parts were dressed with an emollient poultice sprinkled with powdered opium, and the patient was put on the use of tonics alternated with purgatives. The process of sloughing went on rapidly; on the sixth day, the greater part of the affected tissues had separated; a lotion containing one drachm of acid nitrate of mercury in six ounces of water was substituted for the poultice. On the twelfth day, after the admission of the patient, healthy granulations appeared at the bottom of the cavity left after the detachment of the sloughs. The parts were dressed with opiate cerate, under the use of which cicatrization finally took place. About a month after the commencement of the treatment the parts were completely healed.

In January, 1860, when Professor Gross exhibited the case to his class, the patient was apparently in very good health; she had gained much in flesh, and her complexion did not show any of the peculiarities commonly ascribed to cancerous cachexia. The left mammary gland had been completely destroyed; its former situation was indicated by a cicatrice four inches long and two inches wide, red, and highly vascular, having inverted edges, and looking very much as if produced by a burn. The glands in the axilla were but little enlarged. But within the last few weeks a number of small tubercular elevations, evidently of a scirrhous nature, made their appearance at the edges of the cicatrice, which were occasionally the seat of lancinating pain, and also in the integuments around.

In making some remarks on the very rare occurrence of cases where nature makes an effort at the extrusion of a cancerous tumor, Professor Gross stated that he had seen but one other instance of it. The patient was an elderly lady, fat, and otherwise healthy, who had a medium-sized tumor in one of the mammary glands which had troubled her for several years. All of a sudden, without any assignable cause, inflammation set in, and in a few weeks the whole mass was lifted from its bed as neatly as if the operation had been performed with the knife, the cavity being afterwards filled up with healthy granulations. Some time subsequently, the disease broke out in the axillary lymphatic ganglions, and made rapid strides toward a fatal termination.

IV. *A Case of Neuralgia of the Stump; Cure.*—Jacob B., twenty-eight years old, of light complexion and strumous habit, was admitted into the surgical wards of the Philadelphia Hospital, in May, 1859, on account of extensive scrofulous disease of the ankle-joint. Amputation being deemed necessary, the limb was removed at its lower third by the flap operation. A few days after the operation, the parts over the tibia commenced to slough, and the bone finally protruded. After the removal of a triangular piece of bone, about one inch in length, the stump healed without difficulty, and gave no further trouble. In January, 1860, when the case came under the observation of Professor Gross, the patient commenced to complain of a sharp, lancinating pain over the end of the tibia, which was worse at night, and was increased on pressure. He had no fever, nor was his general health disturbed in any other way. He was ordered to take ten grains of sulphate of quinia and half a grain of sulphate of morphia, at night, and the stump was well protected from cold, friction, and pressure. The patient recovered within two weeks.

Remarks.—On presenting this case of neuralgia of the stump to his class, Professor Gross made the following remarks: A disagreeable, frequently indeed a most distressing, secondary affection which may follow amputation, is neuralgia. It comes on at a variable period after its performance, and often continues, despite the most judicious and persevering efforts at relief, to molest the patient during the remainder of his life. Supervening generally without any assignable cause, it is usually most common in nervous, irritable persons, who are subject to the disease in other parts of the body. Females are more prone to it than men, and in them the attack frequently coincides with the eruption of the menses. Sometimes the disease is periodical, especially in residents of malarious regions, the paroxysms coming and going very much as in intermittent fever. Most commonly, however, the pain is omnipresent, one portion of the day being as liable to bring it on as another. It is generally of a darting, shooting nature, or dull, heavy, and aching, and is invariably aggravated by damp states of the atmosphere, fatigue, and disorder of the digestive apparatus. In the more violent forms of this affection, the immediate cause of the difficulty is a bulbous enlargement of the nerves ramifying through the stump. This degeneration takes place, to a greater or less extent, after nearly every amputation, and is therefore to be considered as a disease only when it exists in excess. Under such circumstances, the tumor, which sometimes attains the size of a hickory-nut, or even of a pullet's egg, is of a firm, dense consistence, and is composed of a strong, fibrous stroma, inlaid with hypertrophied and curiously interlaced nervous trunks and filaments. It is, in fact, a true *neuroma*. The accompanying pain is exquisite, and the part is so sensitive as to be intolerant of the slightest touch; the general health is much affected, and the patient is remarkably susceptible of atmospheric vicissitudes, every change in the weather, from warm to cold and dry to wet, being followed by an increase of suffering. This malady is of a much more serious character than the other, and requires proportionably stronger measures. In general, nothing short of removal will avail: by excision, if the tumor be single and easily accessible; by amputation, if it be multiple and deep seated. For the milder varieties of neuralgia the ordinary remedies will sometimes suffice, the same as in neuralgia in other parts of the body, especially quinine, or, if the patient be anæmic, quinine and iron, combined, in either case, with strychnine and arsenious acid, belladonna, stramonium, or aconite; the effects of the articles being studiously watched, lest an over-dose be given and life placed in jeopardy. Sometimes good effects accrue from the exhibition, every night, of colchicum and morphia, administered in full doses at bedtime, as one drachm of the wine to a grain of the salt. The remedy is particularly valuable in subjects of a rheumatic state of the system. Locally, iodine, blisters, issues, and other counter-irritants may be used along with anodyne embrocations and injections. Particular attention should be paid to the protection of the stump from cold, friction, and pressure.

ART. II.—*Cases in Medical and Surgical Practice.* By A. LOPEZ, M.D., of Mobile, Alabama.

CASE I. *Opium an Antidote to Belladonna.*—W. M. B., apothecary at the U. S. Marine Hospital, had suffered for many months with chronic inflammation of the bursa in the right knee, accompanied by enlargement, and occasionally by great pain. Various remedial measures afforded but temporary and trifling relief. Of his own accord, he applied a large blister on and around the swollen joint, and, after removing the cuticle, a plaster of extract of belladonna to the entire denuded surface. In less than an hour toxicosis was established, as denoted by muscular depression, giddiness, nausea, and extensive dilatation of the pupils; the face, breast, and thighs were suffused with a bright erythema accompanied by intolerable itching; and there existed dry, harsh constriction of fauces and throat, and great thirst. At this stage of things I arrived at the hospital on my morning visit.

Having, on various occasions, successfully tried the use of belladonna in cases of poisoning by opium, as recommended by Dr. Joseph Anderson,* I was induced to test the reciprocal influential relation between the two poisons, and prescribed forthwith Tinct. Opii fʒj, Aq. Cinnamon ℥j, at one dose, with directions to repeat gtts. xv every half hour, until a decided abatement of the pathological symptoms. The first dose antagonized the belladonna in less than thirty minutes after it was taken. The dose of fifteen drops was taken, and the desired result having been obtained at the period prescribed, it was suspended.

CASE II. *Kousso in the Treatment of Tape-worm.*—William Nottingham, English seaman, was admitted into the Marine Hospital on the evening of 26th November, 1855, laboring under all the symptoms of tape-worm. He first discovered its presence while on the eastern coast of Africa, twenty months previously, and had, at various times since, passed very small fragments.

The treatment I pursued was as follows:—

27th.—Thin soup diet.

28th.—Seidlitz powder at bedtime.

29th, 7 A.M.—Kousso, ℥ss; Aq. bullient, ℥xij. Infuse fifteen minutes, cool, strain, and give at a draught, to be followed in one hour by a cup of warm tea. At eleven o'clock, a Seidlitz powder. At 2 P.M., he passed eighteen feet, unbroken, of the worm.

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* See Proceedings of Society of Edinburgh, Monthly Jour. Med. Sci., April, 1854. The suggestion was derived from the practice of Dr. Graves, of Dublin, who used it for the dilatation of the pupils, in order to relieve cerebral derangement of continued fever, etc.

Satisfied that this was not all, I resolved to repeat the remedy, but he left without permission before my next visit.

CASE III. *Rupture of the Spleen; Death.*—Charles Boyer, from the barque Ocilla, was admitted into U. S. Marine Hospital, on the 7th of May, 1856, in *articulo mortis.* He was reported to have received an injury on his back and shoulders by the fall of a large and heavy box of merchandise from a height of about fourteen feet.

On examination, I discovered slight ecchymosis over each scapula, and a very extensive effusion in the left dorso-lumbar region, just about the region of the spleen. He was speechless when brought to the ward, and died in a few hours.

Autopsy.—The abdominal cavity contained nearly one gallon of fluid blood with a large quantity of coagula. The inferior and posterior portions of the diaphragm were much bruised and ecchymosed. The spleen was ruptured obliquely throughout its entire length, and was remarkably friable.

CASES IV. and V. *Transverse Fracture of Patella.*—Two cases of this troublesome accident were treated at the Marine Hospital, in 1855, with satisfactory result, by means of Amesbury's apparatus, as described in Plate 5, Fig. 1, of "*Surgery Illustrated.* By SIDNEY DOANE."

The first case was produced by a fall, bringing the patella in sudden and violent contact with a large stone. The second resulted from a blow. In both, the space between the separated portions was extreme, the greatest being nearly two inches. When my patients were discharged, the union restored the patellæ so closely to their original adaptation as to leave scarcely the one-sixteenth of an inch interspace, and scarcely an appreciable alteration in the gait. Having tried on former occasions other methods, I decidedly prefer Amesbury's apparatus.

CASE VI. *Milky Urine.*—James Phillips, black seaman, aged twenty-five, born in Nova Scotia, his parents natives of St. Domingo, was admitted into the Marine Hospital, December 5th, 1855, having a slight enlargement of the left inguinal gland, for which the local application of tinct. iodine was directed, followed by pressure. This treatment was continued until the eleventh, when at my morning visit he exhibited *a half gallon of purely white urine*, voided during the past twenty-four hours. It was entirely free from urinous odor, having the smell and appearance of human breast milk. His history he gave as follows: In

December, 1854, he sailed from Liverpool to St. Domingo. During the voyage from the latter port to New York he was sick three weeks with fever, and pending convalescence he first perceived the milky appearance of his urine, which after a week's continuance disappeared. On his arrival at New York it returned, and abated on the third day. Left New York for Liverpool, (Nova Scotia,) and thence to Barbadoes, during which voyage he slept one night imprudently on deck, and was drenched by rain. This brought on a suppression of urine, which catheterism partially relieved. For several days subsequent he suffered much pain at each attempt to evacuate his bladder, discharging at such efforts coagulated shreds. He next sailed for St. Thomas, thence to Santa Cruz, where the milky urine again returned, and continued during his voyage to Denmark—never free from it longer than two or three days at a time. Two months previous to his arrival at Mobile, he contracted gonorrhœa, which was cured, and was succeeded by the return of the milky urine. Up to this date the largest amount of the urine discharged in twenty-four hours has been a half gallon. Throughout, it has chiefly prevailed at night, much the greater portion during the twenty-four hours being passed from bedtime to daylight. Singular to say, his appetite and digestion are always good, with far less emaciation than would have been looked for; skin dry; bowels ordinarily regular.

Treatment.—December 12th, 13th, 14th, 15th. Tinct. Ferri Chloridi, ten drops three times a day. Diet nutritious, abstinence from salt provisions.

17th.—From mid-day, yesterday, has passed *one hundred and twenty-four ounces*, (only four ounces less than one gallon,) which, upon rest, assumed the appearance of *blanc-mange.* ℞.—Infus. Cinchon Comp. ℥ij, thrice daily.

18th.—Quantity reduced to *half a gallon;* less turbid, and of less specific gravity; retains its fluidity, with few masses of albuminous shreds; slight odor of urea. Continue the infusion of cinchona.

19th.—Urine clear, quantity diminished. ℞.—Ferri Sulph., grs. iv, every eight hours; and at bedtime, Pulv. Doveri, grs xv.

20th.—Quantity increased, with milky appearance; inodorous, with flocculent shreds.

24th —No material change until to-day; the urine coagulates. ℞.—Terebinth Venet., Ext. Gentian, āā ʒij; Ferri Sulph., Gum Kino, āā ʒss. M. Div. mass in pilul. āā grs. jss. S. Three thrice daily, and at bedtime Pilul. Rhei Compos., grs. v.

26th.—Continue treatment.

31st.—No change of urine; slight fever, puffiness of face, and swelling of cervical ganglia; complains of sore throat. These symptoms attributed to over-eating and exposure the preceding night unknown to the officers. Ol. Ricini, ℥j. Apply tincture of iodine to glands.

January 1st.—Fever last night, preceded by slight chill. ℞.—Sulph. Quiniæ, grs. x., to be repeated in six hours. Suspend pills.

3d.—Recommence the pills.

10th.—Fever last night. Sulph. Quiniæ, grs. x.

11th.—Continue pills.

12th.—Dry cups to lumbar region; no change.

13th.—Volatile liniment to lumbar region.

14th.—Bals. Copaiv., ʒvij; Spts. æth. Nit., ℥j; Sodæ Bicarb., ʒijss; Tinct. Cubebs, ℥ss; Tinct. Opii Camph., ʒvi; Sacc alb. and Gum Acac. q. s. Ft. mist. ℥vi. Habt. ℥ss, ter die.

15th, 16th, 17th.—Continue treatment. Under this course, the urine assumed a more clear and natural appearance, *three pints being passed in twenty-four hours.* With this stationary advantage he remained in the hospital until the twenty-third, when the vessel being about to sail for Europe, he was compelled to leave. On the 27th of November, 1858, I met the captain under whom Phillips sailed, and he reports him to be in Liverpool in perfect health and robust. His improvement commenced at the time of his discharge from the hospital and continued until he reached port.

Remarks.—Cases of this nature are rare, yet not unnoticed by systematic writers. They are recorded under the various titles of *chylous, milky and albuminous* urine, and appear to occur more particularly among natives, or residents of tropical regions. The pathology of the abnormal conversion of the urinary elements can hardly be considered decisive, notwithstanding the various resources by which chemistry has lent its aid to physiology. Nor have the various modes of treatment contributed to the solution. Works on general practice, from Morgagni to the present day, throw very little light upon the subject; hence every additional case recorded acquires peculiar interest. Among the writers who have referred to the disease in individual cases are Prout,* Elliotson,† Bonyun,‡ and Stedman.§ The last two have published each a specific case, with the mode of treatment. Dr. Golding Bird devotes a very short paragraph to the subject, and confines himself merely to two assertions—first, his incredulity that milk is ever detected in the urine, except when fraudulently introduced; secondly, that cases of milk-like urine are those containing *phosphatic*, *purulent* or *fatty urine*. He admits, however, that some of the elements of milk may be present, as bile occasionally is, through vicarious action of the kidneys, and its presence established by the appearance of *casein*, as a principle dissolved in globules of fatty or oily matter. The subjection to the microscope of specimens discharged from my patient, (at different stages of his disease, and with the urine kept for shorter or longer periods after the evacuation,) leaves no doubt as to the fact that there is, under certain functional derangement, such an element in the human urine independent of any vicarious relation with utero-gestation.

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* Inquiry into the Nature of Calculus, Diabetes, etc.

† See Good's Study of Med., vol. ii. p. 625.

‡ Lond. Lancet, 1846, vol. iii. p. 253.

§ Amer. Jour. Med. Sciences, May, 1828, p. 295.

In the *Amer. Jour. of the Med. Sciences* referred to above, Dr. George W. Stedman, of St. Croix, W. I., reports a case of "Milky Urine terminating fatally in Tubercular Consumption." The patient was a colored lad aged seventeen. The pathology of this patient varies very little from the case I have just related, but the specific action differs in the absence in my patient of those organic lesions which ultimately involved the lungs of Dr. Stedman's, through means of a general tubercular diathesis. While in Phillips there was no lesion of nutrition, in Dr. Stedman's patient a defective assimilation marked the case throughout, not only in the symptoms, but also in the fatal result following the depletory and mercurial course pursued in its treatment. His case, therefore, is more nearly allied to Dr. Good's paruria incocta, or unassimilated urine. Again, the largest quantity of urine passed by his patient in one day was fifty-five ounces, being sixty-nine ounces less than the largest amount passed by mine.

The case published by Dr. Bonyun occurred at Georgetown, British Guiana. The patient, a creole of Demarara, aged thirty-one, was attacked with the disease without any morbid prodrome, and while in the enjoyment of good health. The functional disturbances in this patient also differed from mine, especially in assimilative integrity; hence he is partly justified in classing it with Good's "paruria incocta," although I am not altogether satisfied that the analogy between *uncomplicated* cases of milky urine and that disease is strictly correct, there being very rarely, as far as reported cases of the former instruct us, such decided absence of assimilation of food or remedies, or the unchanged transit of drugs, etc., to the bladder, independent of chylopoietic action, as testified by the experiments of Home, Wallaston, Marcet, and others. Dr. Bonyun reports his case, however, for the particular purpose of referring to the curative influence of *rhizophora racemosa*, or mangrove, a tree indigenous to British Guiana, which remedy, after a failure with all others, was successfully prescribed by an old negress, in *one-ounce doses of decoction of the bark, four times a day.* The patient, he says, was restored to health.

MICROSCOPY.—*Specimen* No. 1. Passed December 13th; examined 23d. Milk color; inodorous; covered apparently by a pellicle of cream, which, under the microscope, exhibited *milk and oil globules.* A portion taken from an inch below the surface contained coagulated grains of *casein.* The lower stratum (about one-sixteenth of the whole) was composed of mucus, and on evaporation afforded crystals of neutral triple phosphate of magnesia and ammonia.

Specimen No. 2. Passed December 14th, and, while fresh, tested with one-eighth sulphuric ether; examined by microscope on 24th. Covered with creamy pellicle, exhibiting *milk and oil globules*, some of the latter entire but most of them formed into minute drops. At the bottom the fluid contained milk and mucus globules, resembling the imperfect milk of menstruating females. No crystals formed by evaporation, except a few small ones of lithate of ammonia. A portion from the bottom of the bottle was concentrated by heat, and on the addition of acetic acid produced a separation of casein, about one-fourth of the whole. The subsident fluid contained mucus, but no crystals except the minute granules of amorphous powder of lithate of ammonia.

Specimen No. 3. Passed December 16th; examined 25th. The fluid was separated into three distinct strata. The upper one, three-fourths of an inch thick, cream colored, and, under the microscope, exhibited oil and milk globules, with casein coagulated into granules. The middle layer, one and a quarter inches thick, had the appearance of healthy urine, and when evaporated exhibited crystals of bibasic triple phosphate of magnesia and ammonia. No ammonia was used as a test. The lower stratum, half an inch thick, on evaporation yielded crystals of lithate and super-lithate of ammonia, with some needle-shaped crystals of urea.

Specimen No. 4. Passed December 19th; examined 31st. Opalescent; had the smell of putrid animal matter; slightly ammoniacal; surface covered with a slight pellicle in which very few oil globules were perceptible, but it was filled with a great quantity of animalculæ; the usual product of decomposed animal matter; a portion of the specimen taken from the centre of the bottle, by means of a pipette, exhibited, on evaporation, rectangular prisms of neutral phosphate of magnesia, and some crystals of chloride of sodium were apparent. On being concentrated, and nitric acid added, albuminous coagula were produced, and the subsident fluid afforded scales of nitrate of urea.

ART. III.—*Proceedings of the Pathological Society of Philadelphia.*

WEDNESDAY EVENING, NOV. 23d, 1859.

The President in the Chair.

DR. PACKARD stated that he regarded the mammary tumor exhibited at the last meeting as in great measure made up of a structure similar to that of the healthy gland, with an unusually large quantity of fibrous tissue and free nuclei. The thickened and hardened portion of skin close to the nipple, examined in a section, presented a fibrillated appearance, with here and there what seemed to be coils of very fine fibres. In this mass there were also free nuclei, cells of various size, containing one or more nuclei also varying in size, and a few mother cells. Dr. Packard thought, therefore, that to the hypertrophied mammary gland there was superadded, as it were, a cancerous deposit.

DR. WOODWARD said that the portions of the tumor examined microscopically by him were small slices cut from various parts of the diseased mammary gland, and a slice from the greatly thickened and indurated skin near the nipple. In these he found the following conditions:—

Gland.—The whole stroma of the gland was the seat of an abundant new formation of connective tissue, as indicated by the presence of numerous spindle-shaped, embryonic elements. For the most part these elements were quite symmetrical and isomorphous with those of ordinary innocent connective tissue formations. When the cut surface of the gland was scraped, no creamy characteristic "juice" exuded, but the slightly turbid and richly albuminous liquid obtained presented the above elements with innumerable clear, transparent, free nuclei, and some extremely delicate dimly-granular nucleated cells.

The *nuclei*, many of which sufficiently resembled those of the healthy gland tissue, varied in diameter from $\frac{1}{200}$ to $\frac{1}{100}$ of a millimeter, or were even a little larger. Their nucleoli were sometimes dot-like, sometimes vesicular.

The *cells* inclosed similar nuclei, and were from one and a half to two or even three times the size of the nuclei.

When thin sections were carefully cut and examined it was found that though the larger milk-ducts were quite recognizable in many parts, the characteristic appearance of the gland tubules was much modified by the encroaching of the overgrown stroma. In no way could it be determined in any of the pieces examined that the lobules of the gland were hypertrophied; on the contrary, in many parts of these pieces they were almost wholly suppressed. In such sections irregular depots of small Aschersonian vesicles in great numbers could frequently be seen in the interstices of the white fibrous bundles of the stroma. These depots were not found in all parts of any slice, but a slice half an inch square would always exhibit one or more patches characterized by the presence of many hundreds of such depots. This peculiar condition of its stroma is highly characteristic of the cancerous breast, and taken in connection with the history of the case, the external appearances of the morbid mass, and its anatomy thus far set forth, would compel the classification of this breast among the cancers.

But an examination of the *skin* which it will be remembered was continuous with the breast near the nipple, elsewhere separated from it by some normal adipose tissue, showed most significant conditions. The areolæ between the fibres of the corion were packed with nuclei and nucleated cells. The diseased skin was from one-fourth to one-half an inch or more thick. On scraping it a juice more turbid than that from the gland issued forth. In this were found, besides a few spindle-shaped elements, abundant huge *free nuclei*, $\frac{1}{100}$ to $\frac{2}{100}$ of a millimeter in diameter, containing large nucleoli, together with uni and bi-nucleated granular cells $\frac{1}{50}$ to $\frac{1}{25}$ of a millimeter in long diameter. In the diseased skin, therefore, as well as in the breast, a new formation of connective tissue was progressing But in the skin the unsymmetrical and distorted characters of the individual elements which stamp a connective tissue growth as cancer were well pronounced; not so in the breast, the whole minute anatomy of which nevertheless fully accords with the ideal of a carcinomatous affection. The difficulty of diagnosis in such cases as this arises out of the *slow development* of the individual elements as compared with the rapid and bulky growth of the whole morbid mass, in consequence of which the characters called cancerous are not profusely manifested especially in the gland tissue. And it is worthy of note that it is in cases more or less allied in minute anatomy to this, that microscopic diagnosis has most frequently failed in the hands of the heterologists.

He was therefore decidedly of the opinion that this growth was a cancer, and with all modesty, in view of the present imperfect state of our knowledge of the relation between the special anatomical characters of cancerous growth and the history of individual cases, would venture to express the conjecture that it will prove rapidly recurring and most malignant; an opinion based upon the past history of similar structural conditions observed in other cases.

DR. KELLER coincided with the views expressed by Dr. Packard regarding the nature of the tumor. He entered at some length into the question of the value of a specific cell as diagnostic of malignant growths, and alluded to the recent views of Rokitansky respecting the stroma of cancerous affections and their mode of growth.

Cancer of the Mesentery and of the Duodenum.—DR. HARLAN said:—

The specimens on the table are from a German, aged thirty-two, who died in the Pennsylvania Hospital a week ago.

Unfortunately, his history previously to the date of admission is very unsatisfactory. He spoke but little English, and all that could be learned from him was that he had been employed in a sugar factory and continued steadily at his work, and in good health, up to six or eight months ago, when he began to fail in strength and flesh, and first noticed a tumor in his abdomen. It gave him but little pain until within about six weeks before he applied for admission to the hospital. Since this time he has always had pain across the abdomen varying in intensity.

At the time of his admission, on the thirty-first of October, he was much emaciated, had an anxious, haggard expression of countenance, and his skin and conjunctiva were of a deep-yellow color. His bowels were rather costive, the evacuations soft and very dark. The urine was natural in quantity, but deeply tinged with bile. In the upper part of the umbilical region, and extending into the epigastric, was a tumor apparently the size of an infant's head. It was very evident on superficial inspection, unyielding to the touch, and slightly movable. There was not much tenderness on pressure, and no tympanites, dropsy, or vomiting. The treatment was necessarily palliative, and consisted of the administration of opiates, tonics, and stimulants, and of occasional purges and injections; the latter gave most relief, and he used frequently to beg for their repetition. He became rapidly weaker and more emaciated. Toward the close of his life the pain was more intense, and the tenderness much greater, and two days before his death vomiting and slight tympanites were added to his symptoms.

A *post-mortem examination* was made fifteen hours after death. In the chest there were very firm pleuritic adhesions, but no signs of recent inflammation. The lungs were normal, with the exception of a deposition, in the lower part of the right, of the size of a small marble, and of nearly the consistence of cartilage. The abdominal viscera were almost glued into one mass by adhesions to each other and to a large tumor of the mesentery. There was a small amount of purulent fluid in the abdominal cavity. The liver, right kidney, pancreas, and spleen were apparently healthy. At the pyloric orifice of the stomach, on its inner surface, there was a tumor about four inches in diameter and an inch in its greatest thickness, with its surface depressed and its edges raised and inverted, and with some appearance of ulceration. The duodenum was firmly adherent to the liver, and a few inches from the stomach passed directly through the mesenteric tumor from side to side. This tumor, which is about six inches in its transverse diameter and four in its antero-posterior, and irregular in surface when first taken from the body, had a deep-yellow color, and a consistence firmer than that of a healthy brain. There were a number of other tumors varying from the size of an orange to that of a walnut, some of them entirely surrounding the intestines and having small ulcerations on their inner surfaces. The calibre of the intestine was not perceptibly diminished by the tumors; in one instance it was decidedly increased. The left kidney contained a deposit apparently similar to the matter found in the mesentery. Specimens taken from the deposit in different parts presented the same microscopical appearances; a few spindle-shaped, but principally irregular, round, and oval cells with from one to three or four nuclei.

DR. HARRIS spoke of the extreme difficulty of making a correct diagnosis of abdominal tumors by palpation and percussion, particularly in relation to the primary seat of the disease, and related this case in proof:—

Some thirteen or fourteen years ago, I cannot say exactly when, as I have no written record of the case, I met with an instance of abdominal tumor in an Irishman about fifty years of age. The diseased growth occupied the left upper part of the umbilical region, was very hard to the touch, slightly movable, gave but little increase of pain upon pressure over what was at all times experienced, and handling it did not occasion any increased nausea. The prominence of the tumor was considerable, and the abdominal walls were lifted up above their natural level so as to make a projection as large as the half of an orange.

The prominent symptoms of the case were nausea with occasional vomiting, constant pain in the region of the tumor, entire loss of appetite, insomnia, and a red tongue deprived in spots of large patches of epithelium. Quite a number of eminent physicians saw this patient and made their conjectures as to the organ most affected by the diseased growth. Some supposed the stomach to be the chief site of the abnormal production; others seated the disease in the left extremity of the liver; another thought the spleen was the organ involved; another the pancreas; and another the left kidney. After some months of suffering the man died, and much interest was felt in the post-mortem examination on account of the various opinions which had been expressed with regard to the seat of the tumor. Concerning the nature of the malady but one opinion had been advanced, and that was, that it was cancer.

Autopsy.—The stomach was first examined and found healthy; the spleen proved to be normal in every respect; so also the liver, pancreas, and left kidney, which were all removed and dissected before the tumor was touched. The tumor itself was then particularly examined as to its attachments, and it proved to be an enlarged mesenteric gland, of an oval form, slightly flattened laterally, and nearly as large as the egg of an ostrich. It had not given rise to any peritoneal inflammation, neither had it formed any adhesions to the viscera in contact with it. When more minutely inspected it proved to be scirrhus. The brain, heart, and lungs were not examined.

DR. WOODWARD called the attention of the Society to the difficulty in diagnosticating between abscesses in the abdominal walls and visceral tumors. He had had, not long ago, a patient under his care in whom a large swelling was felt in the neighborhood of the spleen, the true nature of which was not discovered until after the occurrence of a chill, and the evident signs of fluctuation in the mass. The tumor was for a long time hard and extremely resistant to the touch. The patient, a young woman, lost strength and flesh, and passed very uncomfortable nights. The idea was at one time entertained that the cause of all the suffering was a malignant tumor of the spleen, but rapid recovery and immediate relief from the more urgent symptoms took place after the discharge of a large quantity of laudable pus. The abscess when carefully probed was not found to communicate with the peritoneum.

DR. GROSS observed that abscesses which originated in the internal organs and opened externally might readily be mistaken for abscesses in the abdominal parietes. In doubtful cases, a careful examination of the matter evacuated was the only sure criterion as to whether or not the abdominal walls alone were implicated. He further thought, that if a surgeon were uncertain as to the nature of an abdominal tumor, it might be proper to pass an exploring needle.

DR. KELLER was of opinion that in cases of abdominal swelling even the exploring needle might be a fallacious guide, and related the following case of *distention of the bladder similating dropsical effusion, in which the bladder was punctured without evil results to the patient*:—

Mrs. B., about thirty-two years of age, and of uncommon fair hair and skin, had been delivered twice of large, healthy children, the youngest of which is now a boy three years of age. Four months ago she had a miscarriage, and was again three months pregnant when I was called to see her, on the twenty-eighth of July, on account of a sense of bearing down pain on the bladder, with an inability to pass water. I found a slight prolapsus vaginæ, and the membrane itself tense, as if some strong pressure were forcing it outward. In introducing the female catheter I had some spasmodic action to overcome, but the urine ran off freely after I had passed the whole length of the instrument. I repeated the same operation every day, and sometimes twice a day, until the first of August, when the patient assured me that she could urinate with ease. On the fourth of the month she complained again of vesical pain, and her digestion was disturbed and she had swelled feet. She showed me half a chamberful of urine which had come from her during the night. On the left side of the pubis a large tumor could be felt; it was round, fluctuating, and of a real cystic nature. This swelling increased daily. On the twelfth of the month I examined the tumor, with a friend, to determine its true character—the tumor had grown to more than the size of a man's head; the upper end reached three inches above the umbilicus. In puncturing with the exploring needle we obtained a fluid coagulating when heated. A day or two afterwards I resorted again to the use of the catheter, notwithstanding the protestations of the patient that she was able to urinate, thinking that an empty bladder would certainly diminish the pressure on the surrounding parts. I introduced every day the catheter its entire length, and always drew off a great deal of water; after each introduction it seemed to me as if the tumor diminished. On the twentieth, I used a long gum-elastic catheter, in part to teach the patient how to use it herself and in part to see how far it would enter the bladder; its whole length entered, and more than double of the usual quantity of urine passed—in fact, nearly two small chambersful. The tumor very quickly disappeared. After this favorable result I introduced the catheter regularly myself every six hours; and for several days there was always a considerable quantity of urine passed after each introduction. By the twenty-seventh of the month the patient had perfectly recovered; she could pass her urine freely at will, and ate and slept well; the œdema of the lower extremities had entirely disappeared.

Report of Committee on Specimen of Ossification of the Pleura.—The committee to whom the specimen of bony deposit in the pleura, exhibited by Dr. H. Lenox Hodge, at the last meeting of the Society, was referred for examination, would respectfully report:—

That they found the position of the adventitious mass to correspond with the fissure between the two lobes of the left lung. The pulmonary pleura was adherent to the costal pleura, but could be dissected off; it was perfectly smooth and normal in appearance. The bony mass was enveloped in white fibrous tissue, thicker on its external than on its inner surface, the fibres being as it were radiated. As the costal pleura could not be dissected off from the inner surface of this fibrous envelope, to which, however, it could be traced, the mass seemed to be imbedded between the two layers of the pleura. Upon fracture of the osseous substance an outer compact shell was seen to inclose a cancelated structure, as in the long bones, and microscopical examination revealed the lacunæ and canaliculi of true bone.

JOHN H. PACKARD,
J. DACOSTA,
H. LENOX HODGE.

WEDNESDAY EVENING, December 14th.

Vice-President, DR. EDWARD HARTSHORNE, in the Chair.

DR. DARRACH exhibited a drawing of elastic tissue found in the sputum of a phthisical patient, and spoke of the value of the microscope as an aid to diagnosis in doubtful cases of pulmonary affection. He had been enabled by its use, in the patient from whom he had obtained the sputum, to declare that a destructive disorder of the lungs was going on.

DR. MITCHELL presented specimens of cancer of the liver and lungs, and promised a detailed history of the case at the next meeting.

WEDNESDAY EVENING, Dec. 28th, 1859.

The President in the Chair.

Cancer of the Liver, Lungs, and Spleen, presenting peculiar Difficulties in Diagnosis.—DR. WEIR MITCHELL read the following:—

T. H., aged fifty-four, stationer and book vender. The patient, a person of spare habit, a hearty eater and of healthy frame—of a family generally healthy, with liability to dropsy late in life, probably from heart disease. His mother died of an affection supposed to be cancer of the face.

In the spring of 1856, I noticed on the palmar face of his hand a small wart, which was rather sore, and was soon accompanied by several others, which became prominent, and cracked, occasionally bleeding. When these tumors became half an inch or more high he consulted in succession several physicians, who pronounced them cancerous. At length, in June, 1859, he fell into the hands of a quack, who applied a plaster which sloughed off nearly two-thirds of the palmar face of the hand and laid bare the tendons. Greatly alarmed at the pain and suffering which ensued, he came to me. I employed cold water dressings only, under which the raw surface healed kindly, the hand being placed on a splint. Before the inner edge of the wound healed, a new formation of a character resembling those which had preceded it appeared on the inside of the hand. The new growth refused to heal, and was aggravated by every kind of dressing applied to it; I finally pared off the small tumor and cauterized its base.

On examination, its structure proved to be chiefly epithelial, with a firm sub-structure of simple fibrous tissue; and I was led to regard it as an epithelial formation, which outwardly and to the unassisted eye it also seemed to be. Its texture resembled that of a soft, cheesy wart, and was readily torn from base to apex; the little finger was so drawn down by the contracting cicatrice which had involved its flexor tendons that it was quite useless, and as the epithelioma seemed disposed to extend, I consulted Dr. Brinton, who finally removed the little finger and half of its metacarpal bone. The wound healed readily.

On various occasions I had examined the patient as to his general health, and was always told that it was excellent, except that he had lost flesh from anxiety, and that he had had a slight cough for several years. Whenever at any time I examined his chest, he exhibited more or less evidence of bronchitis, but the percussion was everywhere even, and not merely clear, but uniformly resonant or tympanitic in tone. At the time of the operation, about November first, Drs. Brinton, Kane, and myself auscultated his heart, and were in some doubt as to the use of ether, because there was heard a faint mitral blowing sound. It was so trifling that it was not regarded as of enough moment to forbid the employment of the anæsthetic, which was therefore given with ordinary freedom. It will be observed that at this time the patient's bowels were regular, his digestion and appetite good, and that, up to the date of the operation, he was free from visceral pain or annoyance, and was neither jaundiced nor sallow. During the healing of the wound he complained of pain in the splenic region. This pain was very sharp, and was treated by Dr. Brinton, who blistered the region in question, and, I believe, altogether relieved him. On November twentieth he sent for me. I found him weak, with increase of his chronic coughing, especially at night. His sputa were yellow and green, like those of old bronchitis, and at no time had he any gelatinous or currant-jelly like expectoration. Upon close questioning, he complained of loss of appetite, and of having had, within two days, some diarrhœa. His tongue was thickly coated and yellow. At this time he was sent to bed and treated with stimulants and tonics, and with nutritive fluid diet. On the twenty-third, he had a rigor at 12 M., and one of slighter nature about 2 P.M. on the twenty-fourth. Each chill was succeeded by fever and sweat. On the twenty-fifth his pulse was 96, his respiration easy and rapid, his tongue more furred and dryer, his bowels costive. As soon as he was placed in bed I examined his belly with care; it was small and not distended. The veins were a little enlarged, and discharged their blood downward as usual. The liver dullness extended about an inch below the ribs in the right hypochondrium. Below the ensiform cartilage there was tympanitic clearness on percussion, and this extended downward into the usual region of clear percussion over the small intestines. To the left of this resonant epigastric space there was marked dullness, which could be traced down from the left curve of the ribs for about five inches, and thence along the border of the ribs toward the left side, where again was clear percussion. Thus, although the liver appeared enlarged, there was a distinct band of clear percussion in the epigastric space, and as there was neither dropsy, jaundice, or want of bile in the stools, it was presumed that the dull percussion on the left must indicate a disease which could not be regarded as being connected with the liver.

As the case advanced, and the patient became emaciated, the left and middle part of the epigastric space exhibited at each inspiration a swelling which corresponded to the dullness on percussion above described. This prominence disappeared during expiration, and followed the motions of the diaphragm. It gave to eye and touch the impression of a circumscribed rounded tumor, lying between the liver and spleen, and having to its right side a clear percussion space, presumed to be due to the stomach, or, at all events, to indicate that to the right of this point lay the boundary of the enlarged liver. On the left side the usual percussion dullness marked the splenic region, below which the percussion was tympanitic.

The progress of the case was, from this time, a downward one. Without headache or local pains, or iliac gurgling, or tympanitis, or eruption, the case was plainly typhoidal, but not a typhoid fever. The bowels were costive throughout, and when moved, presented stools which were dark—or light colored at times—but not of typhoid aspect. The tongue was dry, dark, and coated, with a tendency to clean off and renew its epithelia from time to time.

The bronchial râles above alluded to were heard during his illness as they were in health, except that they became finer, especially at the back and lower half of the left lung, where the percussion was dull as compared with the same region on the right. This local dullness was only a comparative symptom, and had the part indicated alone been percussed, it would have been described as clear in tone.

After the thirteenth day these symptoms became more grave, and evening exacerbations were noticed, the pulse being 90 to 100 at the morning visit, (10 A.M.,) and 120 to 130 in the evening fever, which generally disappeared after 12 at night; both cheeks became red, and twice, I think, the fever was followed by some perspiration.

About the fourteenth day from the first chill delirium began to mark the height of the evening fever, and the patient at such time made violent efforts to leap out of bed.

This delirium was not seen in the daytime; for although the state of his mouth made thick his speech, when the words could be comprehended they were usually apt and correct.

On the fifteenth day the patient was worse; his pulse more rapid and more feeble. Emaciation increased, the tendons twitched, he plucked at the bed-clothes, and lifted himself on his elbows, at the same time staring about him. Meanwhile the face became pinched, cold local sweats broke from him, and, without much increase of tympanitis, without diarrhœa, and without convulsions, he died quietly on the evening of the eighteenth day from the time of the first chill.

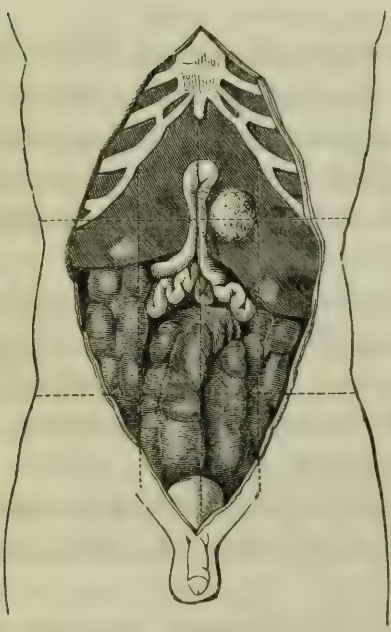
But one point remains unnoticed. The urine examined before the fatal illness, and during it, exhibited no albumen at any time, and was never retained, or in any way the cause of annoyance.

On the last day of the illness the patient was seen by Dr. Da Costa, who agreed with me in regarding the case as a typhous condition, arising from some organic malady. We came to the conclusion that the tumor, which we could now feel and could limit by percussion, was in all probability omental. At this very time the chest percussion was emphatically clear, and even tympanitic, and the middle epigastric space was, as before, so distinctly tympanitic as to force us to note this clear spot as the right boundary of the tumor.

Post-mortem section by Dr. Kane, about twenty hours after death. Present, Dr. Da Costa and myself. Post-mortem rigor well marked. Body emaciated; no jaundice.

Abdomen.—Belly discolored. The locality of the swelling no longer prominent. On dividing the abdominal walls, the viscera were found to be singularly disarranged. The transverse colon was pushed downward and twice doubled in zigzag across the middle of the belly, as represented in the drawing made by Dr. Kane while the parts were undisturbed. The colon, which was dotted with dark-green oval spots, still lay above the small intestines which it had thrust down before it.

Fig. 11.



The cardiac end of the stomach was nearly in place, but the pylorus was pushed down so as to straighten out the small curvature of the stomach and place the larger part of the greater curvature in the left hypochondrium. The left end of the stomach lay therefore in the left hand V of the W formed by the dislocated colon; and had a plumb-line been dropped from the stomachal end of the œsophagus through the stomach, when the patient was erect, it must have fallen on or near the pyloric opening.

From the pylorus the duodenum turned abruptly up and to the right, so that its first portion and a part of the jejunum lay in the epigastric region, within an inch or so of the end of the ensiform cartilage. This loop of intestine reposed in a deep furrow on the front surface of the liver. From this again the duodenum turned downward to end in the small intestines.

The liver, perhaps doubled in weight, descended on the right about one and a half inches below the ribs. In the epigastric region, across which it passed into the left hypochondrium, the organ was deeply indented, and from this notch ran backward a deep furrow in which lay the duodenum as above described; to the left of this furrow the liver descended below the ribs to some distance, and at this part was a large prominent encephaloid tumor about four inches in diameter.

On further inspection, four such masses were found in the liver, thus constituting the rarest of all the forms of hepatic cancer. The tissue of the liver was partially degenerated into fat, but in general the organ was normal. The gall-bladder was full, but not distended.

The spleen was small, and contained several small, soft, cancerous nodules. The pancreas and kidneys were healthy. The left supra-renal capsule had undergone degeneration, and was yellow without, and within full of a thin, brown, grumous matter, but not cancerous. The mesenteric glands near the liver were enlarged and cancerous, but elsewhere they were normal. The peritoneal cavity contained no fluid.

Thorax.—This cavity was observed by those present at the section to be singularly resonant on percussion. The heart was small and slightly affected with fatty metamorphosis. The valves closed perfectly; but one of the mitral curtains was irregularly thickened, and the ring from which spring the aortal valves was also a little more stiff and unyielding than usual.

The lungs were large. When removed they floated in water; wherever struck they emitted a clear, rather tympanitic sound. On incision they were found to be equally studded in every part with innumerable nodules of soft cancer of a yellowish-white tint, and varying from the size of a millet-seed to that of a walnut. Between these spots, which were in every half inch of the lung, or even nearer together, the lung tissue seemed healthy. More or less congestion existed between the cancer masses; but although this was more notable at the back and lower part of both lungs, neither in this nor in other situations was there any marked œdema of the pulmonary tissue.

So general was the distribution of the cancer, that it was impossible to say whether or not the lung was emphysematous. If it was so, the dilatations could not have been large. The pleural membrane was healthy, but some of the nodules raised its pulmonary layer into prominences easily seen and felt before the lung tissue was incised. The blood was everywhere fluid and dark.

Remarks.—The case which I have reported is one of singular interest, and in some particulars will repay a comparison of symptoms with pathological appearances. The existence of a tumor in the abdomen was not suspected until the last illness. The only pain ever felt was in the left side, remote from the liver, and in despite of the great displacement of the viscera, the appetite and digestion remained good, and the fecal evacuations regular. There was no jaundice, or ascites, or œdema, and but a very slight enlargement of the abdominal cuticular veins. In despite of the utter absence of hepatic signs, or of symptoms of cancer of the liver, its presence might have been suspected after the existence of an abdominal tumor had been once ascertained, if it had not been for one circumstance. Whenever the belly was examined, a space of clear percussion was found in the middle epigastric space, so that it was supposed to mark the true limit of the dullness which existed over the tumor. As we have seen, this clear sound was owing to the duodenum and jejunum, which were drawn or forced up into the fissure formed on the right and left by the enlarged liver and covered in front by the anterior abdominal walls. It was physically necessary that this groove should be filled, and consequently the atmospheric pressure upon the more yielding portions of the belly seems to have driven into the void the intestines above referred to. Hence the clear sound and the error which, with the absence of pain, jaundice, and dropsy, induced us to refer the growth to other organs than the liver.

If the hepatic cancer had been more clearly expressed, it is probable that the general bronchitis might have been attributed to its correct cause. But of this even I am not sure; and I am certain that when a physician sees a general bronchitis with a clear and even percussion throughout both lungs, and with only occasional nocturnal dyspnœa, and when, moreover, a mitral murmur seems to explain this last symptom, under these circumstances, I say, few are likely to arrive at a correct diagnosis. The knowledge of the state of the liver was the only guide.

Dr. Walshe describes pulmonary cancer as thus characterized:—

Pain almost invariably present, and this due, at least such is his inference, to inflammation of the pleura. In my case there was no pleurisy and no pain, except temporarily, and late in the disease.

Dyspnœa is a very constant symptom. In this case it did occur at night, but was not very marked, and did not continuously affect the patient.

Cough was present in this as in all other cases of pulmonary cancer.

Unlike all cases of this kind, hitherto known to me, in this one the sputa was altogether uncharacteristic.

The decumbency in this as in most asthenic cases was dorsal during the last illness. Before this it was observed that the habit of health—sleeping on the right side—prevailed.

At page 348, Dr. Walshe recognizes the disseminated nodular form of cancer of the lung, even when the nodules are very numerous, as commonly giving rise to no symptoms, and as not usually altering the resonance of the chest.

This is also the case in some instances of acute tubercle, and in both diseases it is probably due to an emphysema developed *pari passu* with the constitutional and pulmonary malady.

Rupture of the Coronary Artery and Hemorrhage into the Pericardium.—DR. HARLAN, on exhibiting the heart, said:—

A sailor, twenty-two years of age, was admitted into the Pennsylvania Hospital on the second of December. He stated that he had been taken sick six or eight weeks ago at Havana, that no physician had seen him, but that his captain had pronounced the disease to be yellow fever. He never left his berth until the vessel came to port, when he was carried immediately to the hospital.

At the time of his admission he was much debilitated, complained of difficulty of breathing and a feeling of constriction across the chest; he had a frequent, feeble, and very irregular pulse; his bowels were costive, and his appetite poor. His lips were purple, and his skin was cold and damp. The area of dullness on percussion over the heart was much increased; the sounds of the organ were scarcely audible. There was dullness over the back of the chest, and egophony. His face was a little puffy, and there was some anasarca of the lower extremities.

In the course of a few days vomiting occurred, accompanied with epigastric tenderness and almost fatal prostration; it yielded temporarily to remedies, but recurred on several occasions, and each time left the patient more debilitated. The pericardial and pleural effusion continued to increase, and with it the dyspnœa and prostration. He died quite suddenly on the morning of December nineteenth, seventeen days after his admission into the hospital. A few minutes before death he took some wine from the nurse, who did not notice any change in his appearance.

Autopsy.—When the thorax was opened, the pericardium appeared to occupy nearly the whole of the left side, entirely concealing the left lung, which was compressed by it. The pleura contained a pint and a half of reddish fluid, but presented no signs of recent inflammation. The pericardium contained twenty ounces of a similar fluid and half a pint of firmly coagulated blood. There was no rupture of any of the cavities, and the great vessels at their origin were sound. The pericardium was much thickened, and both its cardiac and reflected surfaces were nearly covered with an abundant deposit of coagulable lymph. The right side of the heart was attached to the pericardium by fibrous bands. At the base on the left side the marks of inflammation were most decided, the coating of lymph was thickest there, and the muscular tissue was softened; at one point there was a depression, presenting the appearance of a ragged ulceration and containing a piece of a clot. A probe passed gently into the coronary artery came out at this point, and, on cutting down upon it, the artery could be plainly seen to open directly into the pericardium.

So far as I have been able to learn, this case is unique. It is not a very uncommon thing to find fluid blood mingled with the pericardial effusion. In hemorrhagic states of the system there may be a passive hemorrhage from the pericardium, as there occasionally is from other serous surfaces. Lebert says that blood is sometimes found mingled with the hydrops pericardii in cases of general dropsy, especially of Bright's disease; and when inflammation attacks a newly organized false membrane, hemorrhage is said to result from the rupture of its tender vessels. In all these cases the blood is fluid and comparatively inconsiderable in amount, but a quantity of clotted blood must result from some decided organic lesion, and is an accident of much more rare occurrence. Under the head of "Anomalies of the Contents of the Pericardium," Rokitansky mentions "blood in a fluid or coagulated state," and says "that it is almost always an arterial extravasation, and has been deposited by the spontaneous rupture of the left ventricle or by a laceration of the origin of the aorta, occasionally as the termination of an aneurism." Lebert refers it to a rupture of one of the cavities of the heart, or of aneurism of the aorta, and mentions, as a very rare case, the rupture of an aneurism of the coronary artery. This is the only reference I can find to the coronary artery in connection with the presence of blood in the pericardium.

Though ulceration of the substance of the heart is considered an uncommon result of inflammation, it is well known to happen occasionally. Most cases of rupture of the cavities, according to Laennec, are the result of ulceration; and Hasse thinks that rupture of the heart is of a passive nature, and that, in many cases reported as spontaneous rupture, ulceration must have existed, though overlooked. Hope, Laennec, and Andral have all seen abscesses of the heart as the result of partial inflammation of its substance occurring in cases of pericarditis; and Hope says that ulcers are less rare than abscesses, though they generally commence in the endocardium and extend outward. The appearances of the ulceration in this case were not very well marked; the edges were rugged and fused with the loose, shaggy deposits of lymph entangling pieces of clot; and if the progress of the ulcer had not been stopped before it reached the cavity, by death, it would very possibly have been overlooked, and the case reported as one of rupture from softening.

As the diagnosis of yellow fever has no other proof than the dictum of a sea-captain, the probability is that the heart was originally the seat of disease, and that the pathological changes were the result of an inflammation of two months' standing.

Typhoid Fever; Penetrating Ulcer.—DR. HARLAN next exhibited a penetrating ulcer of the intestine.

John Boyle, an Irish laborer, aged twenty-two, was admitted into the Pennsylvania Hospital, on the sixth of September last, for typhoid fever. There was nothing very remarkable about his case, except that the convalescence was unusually slow, and that he had several relapses without any assignable cause. He was treated with quinine and stimulants, and three weeks after admission was put upon the use of oil of turpentine, which was continued for about a month. His last relapse occurred in the latter part of October; since then he improved slowly until two weeks before death, when he was able to walk about the wards for a greater part of each day. His appetite was good, his tongue clean and moist, and his bowels were moved with remarkable regularity once a day, but there were always a dullness of intellect and an unnatural expression of countenance, which showed that all was not right; he always seemed like a sick man. On the evening of the sixteenth of December, when I made my visits to the wards, he was sitting as usual in his place, and said he felt pretty well. During the night he was attacked with pain in the abdomen, and the next morning I found him much prostrated, his pulse frequent and feeble, his abdomen slightly tympanitic and tender to the touch, his tongue brownish and perfectly dry, and his face and chest bathed in perspiration. On the morning of the eighteenth he was suddenly seized with vomiting, during which he died.

Autopsy ten hours after death. Lungs, heart, and kidneys healthy; liver slightly enlarged; spleen enlarged and softened; membranes of the brain congested—brain itself slightly so, but very firm. Peritoneum presented well-marked signs of recent and extensive inflammation. An accidental cut of the intestines prevented us from determining the existence of extravasation. Numerous ulcerations of Peyer's glands extending for four or five feet in close succession from the cæcum upward, many of them apparently undergoing the process of cicatrization. In one ulcer, nearest the cæcum, there was a small oval perforation with smooth edges.

The point of interest in this case is the unusual length of time intervening between the commencement of the disease and death by perforation. Dr. Gerhard has never seen or heard of perforation after anything like so long a period, and the longest period that I can find, mentioned by Louis, is forty-two days. This man died three months and a half after he came to the hospital, most probably at least four months after the commencement of the disease.

Dr. Stillé made some remarks with regard to the frequency with which the final perforation of the bowel was caused by imprudence in diet, and mentioned a case in which it had been brought about by the patient's eating a large quantity of ginger-bread, more than a month after the febrile symptoms had passed off.

Dr. Da Costa mentioned that a case had come under his notice, in which perforation had occurred after a lapse of seven months. The perforation followed the eating of a large quantity of chestnuts. The patient, a young man, had had a very severe attack of typhoid fever.

Dr. Lenox Hodge exhibited an *Incised Wound of the Intestines*, taken from a patient who was brought to the Pennsylvania Hospital, December twenty-fourth, with a stab in the right inguinal region. About fourteen or sixteen inches of the small intestines, wounded in three places, protruded. These wounds were three-fourths of an inch in length, and partially closed by the everted mucous membrane. They were stitched with the continuous suture of silk, the intestine returned, and the external wound closed by the interrupted suture of lead, carried only through the skin. As soon as the gut was returned, the man, almost dead before, began to react. He lived for forty-two hours. There was a great effusion of fluid blood, at least three pints, in the peritoneal cavity.

Softening of the Right Side of the Brain; extensive Chronic Hydrocephalus on the Left Side.—Dr. Keller exhibited, through Dr. Packard, specimens of a cerebral lesion, and of atheromatous deposits in the arteries. Dr. S., fifty-one years of age, a bachelor from Germany, was, at six o'clock in the morning, at the beginning of February, seized with paralysis of the left arm and leg. He was a man of very regular habits, and of fanatical love for anything instructive; a great scholar in botany, geography, and languages, but deficient in those sciences which are not, for the most part, dependent on memory. The paralysis was soon relieved, and he was able, four weeks afterwards, to go out again and to use his arm tolerably well.

About the middle of March, in consequence of a fatiguing walk the previous evening at a late hour, and an attack of diarrhœa during the night, complete paralysis returned. The paralysis of the left arm and leg seemed to get somewhat better during the summer, but still the movements remained imperfect. As the weather got cooler the limbs contracted, and he was entirely unable to move in the least. In December his ideas became confused, and he died delirious, on the 26th of December, 1859, after eleven months' sickness.

Autopsy made by Dr. Packard twenty-four hours after death.—Body rigid. The bones of the cranium were thick and nowhere attached to the dura mater. A great deal of serum in the subarachnoid space and ventricles. Vessels of pia mater highly congested. Cerebral substance generally normal. Left ventricle very much enlarged, so as to extend over nearly the whole length of the cerebral hemisphere. Right ventricle of normal size, but in the corpus striatum of that side there was a cavity of the size of a marble, opening into the ventricle, and surrounded by a spot of softening of the cerebral substance about as large as an egg. Under the microscope, this softened brain-matter was found to present the pouching of the tubuli in a more marked degree than the adjacent portions did. It contained also numerous oil-drops, and a number of large, dark, conglomerate-looking corpuscles, such as are usually present in softened brain-substance. The basilar artery was completely blocked up with clots, as was also the right carotid. These vessels were atheromatous, and the basilar artery was aneurismally dilated. From their appearance, these clots seemed to have been formed some time previous to death. The heart was large and pale, and contained a very voluminous soft black clot, and some fluid blood. Under the microscope, it was seen to be very slightly fatty. Atheromatous patches in every stage of formation, and of every size, existed throughout the aorta, and in the iliacs as far as traced; all the arteries given off from the aorta presented the same change. At some of these patches in the aorta the internal coat was eroded. The valves of the heart were healthy, the bicuspid being, however, somewhat thickened. Lungs perfectly healthy, with very slight pleuritic adhesions at their apices. Liver very slightly fatty. Spleen and pancreas normal. Kidneys large and pale, and softer than usual, but without marked change. Supra-renal capsules separated from them by a large quantity of fat, and not satisfactorily examined. Intestines not examined; apparently normal.

Bi-Monthly Abstracts;

OR, BI-MONTHLY NOVELTIES IN MEDICAL, PATHOLOGICAL, SURGICAL, OBSTETRICAL, PHYSIOLOGICAL, AND CHEMICAL SCIENCE.

SURGERY.

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I.—*Acupressure: A New Method of Arresting Surgical Hemorrhage.* By J. Y. Simpson, M.D., F.R.S.E., Professor of Medicine and Midwifery in the University of Edinburgh, etc. etc. (Edinburgh Medical Journal, January, 1860.)

In a communication made to the Royal Society of Edinburgh, the distinguished author of this paper discusses at some length the effects produced by the application of silk ligatures to divided arteries, and insists upon the fact of their acting as setons in a wound and preventing union by the first intention. After reviewing the different improvements made to overcome the difficulty, he proposes to diminish the dangers of irritation, and to favor the chances of primary union by a new hemostatic process, by which no foreign body is left permanently in a wound.

To fulfill these indications he has devised what he terms acupressure, which he and other surgeons have successfully employed upon the human subject. It is made by means of slender needles of passive or non-oxydizable iron, which, in other respects, resemble the ordinary hare-lip pin. The needle is passed twice through the wound, and compresses, by its middle portion, the divided artery, a line or two on the cardiac side of the bleeding point. As soon as the vessel is supposed to be adequately closed, which will be, generally, on the second or third day, the instrument is removed and the adhesive process is thus not interfered with.

In introducing the pin the surgeon compresses the bleeding orifice with the tip of his left index finger, and with his right hand passes it through the cutaneous surface of the flap, until its point projects out on the raw surface of the wound, when it is carried across the artery, and brought out on the opposite side. If it be necessary to make more forcible pressure, a twisted suture may be cast around the instrument. The process may be better understood and imitated by the mode by which the stem of a flower is fastened to the lapel of a coat. A deep-seated artery may be compressed against a bone in the same manner.

The advantages of acupressure over ligation of arteries are stated by Professor Simpson in the following propositions:—

"1st. Acupressure will be found more easy, simple, and expeditious in its application than the ligature.

"2d. The needles in acupressure can scarcely be considered as foreign irritating bodies in the wound, and may always be entirely removed in two or three days, or as soon as the artery is considered closed; while the ligatures are true foreign irritating bodies, and cannot be removed till they have ulcerated through the tied vessels.

"3d. The ligature inevitably produces ulceration, suppuration, and gangrene at each arterial point at which it is applied; while the closure of arterial tubes by acupressure is not attended by any such severe and morbid consequences.

"4th. The chances, therefore, of the union of wounds by the first intention should be much greater under the arrestment of surgical hemorrhage by acupressure than by the ligature.

"5th. Phlebitis, pyæmia, etc., or, in other words, traumatic or surgical fever, seem not unfrequently to be excited by the unhealthy local suppurations and limited sloughings which are liable to be set up in wounds by the presence and irritation of the ligatures.

"6th. Such dangerous and fatal complications are less likely to be excited by the employment of acupressure, seeing the presence of a metallic needle has no such tendency to create local suppurations and sloughs in the wound, such as occur in the seats of arterial ligatures.

"And 7th. Hence, under the use of acupressure, we are entitled to expect both, first, that surgical wounds will heal more kindly and close more speedily; and, secondly, that surgical operations and injuries will be less frequently attended than at present by the disastrous effects and perils of surgical fever."

II.—*On the Treatment of Strangulated Hernia by the Taxis, and especially by forced and prolonged Taxis.* By DR. GOSSELIN, Surgeon to the Cochin Hospital, etc. (A paper read before the Paris Academy of Medicine, 26th of October, 1859. Gazette Hebdomadaire, Nos. 44 and 46, pp. 694 and 725, November 4th and 18th, 1859.)

AMUSSAT and Lisfranc long since advocated forcible and prolonged taxis in the reduction of strangulated hernia; but this treatment has not been generally recognized by surgeons as a safe procedure, preferring to employ it with as little force as possible, and not to prolong their efforts, in the majority of instances, over twenty minutes. During the last fifteen years, Dr. Gosselin has met with eighty-five cases of strangulated hernia, and has investigated very fully the treatment of which he is, at the present time, so warm a partisan.

In making the taxis, the surgeon should grasp the tumor in the usual manner, and commence his manipulations by making moderate pressure, acting, of course, upon that portion of the gut which was last protruded. If, in four or five minutes, the parts be not reduced, the pressure should be increased and both hands be used, at the same time that the surgeon throws, through his arms, the weight of his body upon the tumor. As the process is very fatiguing, it will become necessary, as happened in one-third of the author's cases, for an assistant to apply his hands also; thus constituting what Dr. Gosselin calls "the taxis with four hands." Or, if the operator be much fatigued, his place is supplied by a competent person. These efforts may be continued from thirty to sixty minutes, after which time, if the hernia is not returned, an operation will be called for.

Of the eighty-five cases of strangulated hernia, treated by the author in private and in hospital practice, only twenty-nine were subjected to the taxis; moderate force being sufficient in some instances to effect reduction, but in the great majority of cases the pressure was forcible, and continued usually about half an hour. Two of these patients died; the first being a case of femoral hernia, in which forced and prolonged taxis was employed unsuccessfully for three-quarters of an hour, and, as the patient would not consent to an operation, she died from the effects of the strangulation. In the second case, one also of femoral hernia, the fatal result may be attributed to the taxis.

The remaining twenty-seven patients all recovered without any accident, excepting one, who had slight symptoms of peritonitis, which, however, disappeared in five days. The duration of the strangulation in these cases dated, at the furthest, for inguinal hernia, three days; for femoral, thirty-six hours; and for umbilical, twenty-four hours—the form of hernia being, in seventeen inguinal, in seven femoral, and in three umbilical.

From these facts it would appear that inguinal hernias were not so firmly strangulated as other varieties; but when we compare the cases successfully reduced with those in which the taxis failed, we find that the failures are nearly as numerous as the successes; thus, Mr. Gosselin operated on sixteen patients with inguinal hernia, who had previously been subjected to the taxis by other surgeons, so that he is unable to say whether it had been made properly. In the majority of these cases the strangulation had existed more than forty-eight hours, so that he was fearful to return a gut which might have been gangrenous or perforated. He had but two cases of failure, in which the constriction had existed less than two days.

In regard to the adjuvants of the taxis in strangulated hernia, the author places no confidence in venesection, baths, poultices, purgatives, strychnia, coffee, and other measures, but very properly dwells upon the importance of position and the employment of chloroform in all cases. Without the latter agent it would be impossible to conduct the taxis properly, on account of the great pain which it occasions, and by no other means could the necessary muscular relaxation be obtained.

That femoral hernia proves most difficult of reduction is shown from the fact, that of thirteen cases in which forcible taxis was instituted, five were failures; whereas only two were unsuccessful in nineteen cases of inguinal hernia. Inasmuch as gangrene and perforation of the intestine take place much sooner in femoral than in inguinal hernia, the author would assign as the limit of time for the practice of forced taxis, in the former forty-eight hours, in the latter seventy-two hours.

III.—*A Case of Simultaneous Lateral Dislocation of both Knees.* By J. W. HAMILTON, M.D., Professor of Surgery in the Starling Medical College. (Ohio Medical and Surgical Journal, January, 1860, p. 185.)

On account of the large size and strong ligamentous connections of the knee-joint, it is comparatively rare that the surgeon meets with a luxation of this articulation; and when it does take place laterally, whether externally or internally, the injury is most frequently incomplete. The case of Dr. Hamilton is, therefore, especially interesting, from the fact that both tibiæ were completely dislocated laterally and externally from the condyles of the thigh bones. The accident occurred to a German, forty-four years of age, of medium muscular development, who was bruised by the falling of a large pile of saw-dust. In addition to the dislocations, the right fibula was fractured just below its head, and the ligaments of the joints were so completely severed that the legs could be made to make almost any angle with the thighs. But slight manipulation was required to reduce the luxations and the integuments were unbroken.

The treatment consisted in keeping the limbs in an extended position, with extensive lateral support by means of folded comforters, and the continuous application of cold water, opium being administered internally. At the end of ten days active inflammatory symptoms having disappeared, the apparatus and cold water were discontinued, and slight, passive motion, with the external application of iodine, substituted.

On the forty-fifth day the motion of the knee-joints was perfectly free, but the right knee could be partially dislocated by exerting slight lateral pressure. The patient's limbs were bandaged and the knees supported with pasteboard splints, and he was allowed to walk about on crutches. A complete cure is eventually expected.

IV.—1. *Aneurism of the Radial Artery cured by digital compression.* By DR. DENUNCÉ, Adjunct-Professor of the Clinic of the St. Andrew's Hospital of Bordeaux. (Journal de Médicine de Bordeaux, December, 1859, p. 781.)

2. *Aneurism of the Crural Artery treated successfully by digital compression.* By M. RIBERI. (Gazetta Medica Italiana, and Edinburgh Medical Journal, November, 1859, p. 468.)

1. The first case occurred in the person of a mason, thirty-three years of age, who divided the lower portion of his left radial artery with a hatchet, the lips of the wound having been simply drawn together with lead plaster. On the tenth day after the accident hemorrhage took place, which was arrested by a compress and small splints, these being confined in their position by a bandage for three weeks.

When seen by Dr. Denuncé, seven weeks after the occurrence, the cicatrix was found to be firm. There was present a large, well-marked, false aneurism, the pulsations of which were completely abolished by pressure upon the artery above and below the tumor. The patient having been confided to the charge of two assistants, was placed recumbent, with the arm extended on a pillow and supported by a table, and the treatment was commenced at ten o'clock on the morning of the sixth of November, by instituting pressure with the fingers of both hands above and below the tumor. In six hours the tumor had become firmer and the pulsations were more feeble, and at nine o'clock in the evening, pulsation had entirely ceased. Digital compression was maintained until midnight, when a cork was confined over the artery by means of a roller. On the following morning, at nine o'clock, pulsation had not returned, but compression with the fingers was again established for nine hours, when the tumor was found to be hard, except at its superior portion, where there was some fluctuation, and the skin was very thin. Mechanical compression was continued for several days, with the effect of causing the tumor to decrease in size, and at no time was pain experienced. The patient was seen eleven months subsequently, when a small, hard point, about the size of a pea, marked the former site of the tumor.

2. M. Riberi instituted digital compression on the femoral artery as it passes over the horizontal ramus of the pubes, for a very painful aneurism of the lower third of this vessel. The patient was a young man who, several months previously, had fallen from a locomotive and severely concussed his spine, the accident being followed by the appearance of the aneurismal tumor and an attack of subacute myelitis. For the latter affection, as well as for syphilis, under which he labored at the time, he underwent treatment before the aneurism was attended to.

The pain and pulsation ceased after two hours' compression, and in four hours more the tumor became hard. Ice-water was now applied, and the aneurism gradually became firmer and smaller, and the treatment was discontinued at the lapse of four days.

V.—*Review of Cases of Stone in the Bladder.* By THOMAS P. TEALE, F.R.C.S., Surgeon to the Leeds General Infirmary. (Medical Times and Gazette, December 10, 1859, p. 571.)

Dr. Teale, in this interesting surgical contribution, places before the profession the statistics of the operations for stone. performed by him in private and in hospital practice from 1826 to 1859, and also notices the changes which he has made from time to time in his mode of operating.

The number of cases is eighty-seven, and they are classified under the following heads:—

	Cases.	Recoveries.	Deaths.
1. Lateral lithotomy in adults	35	22	13
2. Lateral lithotomy in children	18	18	–
3. Lithotrity in adult males	15	14	1
4. Median lithotomy	12	11	1
5. Stone in the female	7	7	–
	87	72	15

The nature of the calculus is stated in sixty-one cases, from which we find that thirty-four were lithic acid; fourteen, phosphatic; eleven, oxalate of lime; one, lithate of ammonia; and one, cystic oxide. Fifty-seven of these cases were adult males, and the remaining thirty comprised twenty-three male children and seven females, whose ages ranged from four to sixty-three years.

From the above table it will be perceived that the lateral operation was performed, without a single death, on eighteen children, their ages varying from two and a half to thirteen years, and that all of the females subjected to an operation recovered. In four of the latter simple dilatation was performed; in two, superficial incision and dilatation; and in one, lithotomy. These statistics confirm the fact of the lateral operation being the most successful in subjects under the age of puberty.

The author discusses, more especially, the various operations for stone in the adult male, or patients after the age of puberty, and, from the table, we are surprised to see the mortality of the lateral operation, in which the only instruments used were the straight staff and knife of the late Mr. Aston Key. The operations were thirty-five in number with the result of twenty-two recoveries and thirteen deaths, the proportion of the latter being one in two and two-thirds of the cases.

Lithotrity was practiced in fifteen cases, of which fourteen recovered. The number of sittings in fourteen cases averaged six; the smallest number being two, the largest twenty-two. Dr. Teale prefers allowing the urine to distend the bladder in preference to injecting this organ with tepid water previous to the performance of the operation.

In seven of the adult males median lithotomy was performed, the result being one death and six recoveries. To these may be added five cases in which the operation was practiced on subjects under the age of puberty, all of whom recovered. In a note appended to his paper, the author states that the median process has been performed in Leeds twenty-three times, with the result of three proving fatal. Fifteen of these operations were performed on adults, two proving fatal.

We thus find, presenting the above facts in tabular form, that fifty-seven operations were performed by Dr. Teale on adult males with the following results:—

Cases.		Recoveries.	Deaths.		Death.		Cases.
35	Lateral lithotomy	22	13	or	1	in	2⅔
15	Lithotrity	14	1	or	1	in	15
7	Median lithotomy	6	1	or	1	in	7

This table will serve to demonstrate the reasons why the author has changed his mode of operating from time to time, and he thus states the successive phases of his practice. 1. Lateral lithotomy in all cases. 2. Lateral lithotomy the rule, lithotrity the exception. 3. Lithotrity the rule, lateral operation the exception. 4. Median lithotomy the rule, lithotrity the exception.

For dilatation of the prostate, Dr. Teale advises the employment of the left index finger for children, whereas, in the adult, he uses a modification of Weiss's dilator for the female urethra. The instrument consists of three branches, with blades five inches and a half in length, and terminating in a slight bulb to prevent it slipping out of the bladder. The conjoint diameter of the instrument when closed, is three-fourths of an inch at its base, and half an inch at the bulb.

VI.—1. *A New Principle of Treatment and Apparatus for Vesico-Vaginal Fistula.* By ROBERT BATTEY, M.D., of Rome, Georgia. (Lancet, December 31st, 1859, p. 664.)

2. *On Vesico-Vaginal Fistula: Illustrating a New Method of Operation.* By ISAAC BAKER BROWN, ESQ., F.R.C.S. (Lancet, December 10th, 1859, p. 581.)

1. Dr. Battey's new apparatus for the treatment of vesico-vaginal fistula is a modification of Bozeman's button, and consists of a leaden shield, which, acting

the part of a splint and compress, exerts moderate pressure upon the approximated edges of the fissure. For this principle alone the author claims originality, and thinks it possesses the advantages of producing a water-tight joint, impervious to the flow of urine; that it permits of more accurate apposition of the edges of the wound, thus favoring union by the first intention, and affords an opportunity of inspecting the lips of the fistule up to the time of their final closure.

When the tissues are rigid and there is great loss of substance, the apparatus, moreover, possesses the power of bringing down the vagina and uterus, so as to render the parts more accessible, thus admitting of their more easy closure, with less danger of the sutures cutting out.

The combined splint and compress is composed of a strip of sheet-lead, of convenient length, thick enough to be flexible, and usually five-sixteenths of an inch in width; one side of the bar is perforated with holes about three-sixteenths of an inch apart, and the other side is notched opposite the perforations. The edges of the fistule having been pared in the usual manner, and the stitches introduced, the apparatus is applied by passing the ends of the silver wires through the holes in the splint, and securing them by means of perforated shot, leaving about an inch of their ends free. Traction being made upon the sutures, the splint is drawn down upon the posterior edge of the fistule, and a strip of wood is passed under the wires and pressed upward, bringing the anterior lip in contact with the posterior, thus closing the opening. The splint is next turned down, and the proximal ends of the wires are pushed into the notches and the two ends are then twisted together, snipped off, and turned down on the splint.

In the *Southern Medical and Surgical Journal* for December, 1859, Dr. Battey reports a case successfully treated by his method, the apparatus being removed on the tenth day.

2. The new operation of Mr. Brown, which he has employed four times successfully, consists in substituting for the button a simple leaden bar clamp, slightly curved, and having a perforated nipple projecting from its back. The metallic sutures having been introduced, the two ends of the first wire are passed through the clamp, and held in the left hand, and the nipple of the clamp being seized with a pair of long forceps it is pressed back until the edges of the fistule are in apposition, when the nipple is firmly squeezed and the suture secured. The remaining sutures are treated in the same manner.

The author has succeeded in operating by his method within three-quarters of an hour in the worst cases, and therefore claims, as its advantages, its celerity, the certainty of perfect apposition of the edges of the fistule, its application to every fistule, no matter however tortuous, and the ease with which the suture is removed.

VII.—*Simultaneous Dislocation of both ends of the Clavicle.* By M. MOREL-LAVALLÉE. (Gazette des Hôpitaux, No. 33. 1859.)

M. Morel-Lavallée reports to the Surgical Society of Paris a case of this extremely rare injury, occurring in a man, forty-four years of age, who was compressed between the wheel of a carriage and a pile of wood. When seen by the author on the following day, the attitude of the patient was expressive of injury to the clavicle; and, on examination, the sternal extremity of the bone was found to be luxated forward, as denoted by the presence of a hard, circumscribed tumor just beneath the episternal fossa, and the other signs of this dislocation. The acromial end of the bone was placed in the middle of the space separating the side of the neck from the shoulder, and it projected underneath the skin, rendering its outline easily traceable. The clavicle appeared to have assumed an anterior-posterior direction, and the relaxed trapezius formed a small, globular, soft tumor. The supra and sub-clavicular fossæ were completely effaced, but the distance from the acromion to the sternum was the same on both sides. The sternal dislocation was reducible, and could be maintained in place by bandages, but the external extremity of the clavicle resisted all efforts at reduction.

VIII.—*The Value of Internal Incision in the Treatment of Obstinate Strictures of the Urethra.* By HENRY THOMPSON, F.R.C.S., M.B., etc. (Lancet, Amer. Edit., January, 1860, p. 25.)

In this paper, Dr. Thompson, after stating that he is a partisan of no particular mode of treatment for organic stricture, calls attention to the value of internal incision; believing, however, that dilatation is the safest and simplest method, and that Syme's operation is valuable in certain cases. The treatment by internal incision is as useful and desirable as either, but should only be resorted to when dilatation has proved useless or merely palliative. Incisions should be restricted, first, to strictures of very long standing, and so unyielding that dilatation produces no material good effect upon them; and, second, to those occurring in early life, and proving obstinate to dilatation; as in these cases the disease will recur, and the symptoms will become aggravated. Young and middle aged persons are more amenable to treatment, and the incisions should, therefore, be practiced in them to prevent future extensive disease of the urinary organs.

In the large proportion of the above cases internal urethrotomy affords a more efficient means of treatment than external incision, or in those subjects in whom the indurated tissue can easily be divided by a cut of moderate length. In no case is an instrument capable of making deep incisions to be employed, as the danger is much greater than by external division, when the stricture is of such an extent as to require a deep urethral incision necessary for its complete division. The narrowness of a stricture alone is not an indication for an operation, as it, usually, has not a corresponding relation to the intensity of the symptoms, but the strictures requiring incision are those characterized by non-dilatability and contractility; the presence or absence of these two physical characters, and not mere narrowness, are, therefore, to be considered in the application of any treatment.

The author lays down three rules for the successful practice of internal urethrotomy, namely, the cutting instrument must be passed completely through the contraction, and the incision be made from behind forward; the whole of the contracted part must be divided, and the lips of the wound must be held apart by the catheter to prevent primary union.

In the first condition, after having completely passed the stricture and cutting from behind forward, the incision is not jagged, as in the case where the urethrotome is passed from before backward, in doing which the folds of the mucous membrane of the urethra are carried in advance of the instrument, thus making an uneven cut, not altogether under the control of the operator. The latter mode is occasionally followed by scrotal or perineal abscess, which is very rare when the other method is employed.

To fulfill the second indication the limits of the stricture must first be accurately defined by the employment of an instrument with a bulbous extremity; and as there is always some tendency in the canal to contract in front and behind the stricture to the extent, usually, of a third of an inch, those portions must be included in the incision, or the disease will almost invariably recur at a sooner or later period. Subsequent catheterism with a large instrument, is positively essential for a radical cure.

Dr. Thompson still prefers Civiale's urethrotome for the division of strictures in front of the scrotum and in the bulbous portion of the urethra; but his own instrument admits of being made of smaller size than any previous one for cutting from behind forward, and is to be used when the stricture is so small that the urethrotome of Civiale cannot be introduced. It is very similar to the one employed by Mercier, of Paris, for incising the prostate, and consists of a canula terminating in a slightly-curved and bulbous extremity, which contains the blade of the instrument. In employing it, it is only necessary to withdraw the handle of the blade to the same extent as is done when the entire instrument of Civiale is used, the canula remaining *in sitû*. The degree of projection of the blade is not calculated to do any harm, and, when exposed, the distance from its point to the back of the canula equals the diameter of a No. 14 catheter.

In regard to hemorrhage, urinary extravasation, perineal abscess, and constitutional disturbance, which are apt to follow any operations upon the urethra, the author states that he has notes of forty-two cases in which internal incision had been practiced upon different portions of the canal without meeting with any accident, excepting in two instances, in which pretty free hemorrhage took place.

PATHOLOGY AND PRACTICE OF MEDICINE.

BY RICHARD J. DUNGLISON, M.D.

I.—*Epilepsy, with Ossification of the Falx Cerebri; History of the Case of Prof. Wm. Pultney Alison, M.D., of the University of Edinburgh.* By PATRICK NEWBIGGING, M.D., etc., Edinburgh.

It is rarely possible, by post-mortem examination of epileptic patients, to detect the true pathology of the disease. Causes occasionally exist which had never been suspected during lifetime, and these, when revealed by dissection after death, throw much light upon obscurity. The case of Prof. Alison is interesting on this account, independently of any importance it may have as the history of the illness and death of a distinguished scientific teacher. In a paper read before the Medico-Chirurgical Society of Edinburgh, by Dr. Patrick Newbigging, the details are given of thirteen years of an existence marked by repeated attacks of a nervous affection, which threatened at any time to place life in jeopardy. While prescribing in the Royal Infirmary, in May, 1846, Prof. Alison fell on the floor in a violent convulsive fit, simulating epilepsy, but to Dr. Paterson, one of the physicians to the hospital, having many of the symptoms of apoplexy. Venesection restored him to consciousness, and soon afterwards to apparently good health. In the same year he had four attacks of a violent nature, and these recurred at intervals of six weeks until 1850, when they became far more numerous. For several years afterwards, their frequency became augmented, and sometimes more violent cerebral symptoms supervened. In October, 1854, he had eleven attacks in the same number of hours, and recovery seemed doubtful. The fits were now far more numerous, so much so, indeed, that it is perhaps rather an under-estimate to say that in the last seven or eight years of suffering, more than three hundred fits occurred.

The last year of his life was distinguished by symptoms of greater danger. Delirium, which accompanied former attacks, now became maniacal, and active restraint was necessary. It was deemed advisable, notwithstanding the cerebral contra indications, to prescribe large doses of opium instead of the combination of hyoscyamus and camphor, and prussic acid, which had been previously given. Dr. Alison died quietly on the twenty-second of September last, after a violent delirious attack, with intermitting periods of conciousness.

Post-mortem examination, twenty-two hours after death, revealed extensive ossification of the falx cerebri, the anterior portion, to the extent of three inches or more, being converted into a firm bony mass, having a rough, irregular surface, with elevations and depressions which had corresponded with the sulci and convolutions of the brain. A smaller bony mass was detected behind the large ossified portion. The arteries at the base of the brain were also considerably ossified, the pia mater was œdematous, and the surface of the brain, as well as the lateral ventricles, was covered with a serous fluid. The cystic duct was obliterated; no bile was present in the gall-bladder, the organ being filled with large gall-stones, worn smooth by a long-continued process of attrition. No mention is made of the condition of the ductus communis choledochus. No other important pathological appearances were observed, and ossification of the falx was deemed by Dr. Newbigging a very satisfactory means of accounting for the violent symptoms of cerebral disorder manifested during life.

After Dr. Newbigging's report had been presented, a note was read from Dr. James Struthers describing one of the fits. Prof. Alison afterwards made the remark to him, "You will probably be present when my head is examined, and depend upon it you will find no disease of the brain. Whatever disease there may be, you will find it in the membranes; and from what I have observed in similar cases, you will probably find it to consist in a general thickening of those on the upper surface of the brain; but, remember, I have told you there will be no disease of the brain itself." The examination of his encephalon after death verified this prediction. He afterwards, however, expressed the opinion that a tumor must be present in his brain.

The structure of the ossified falx presented characteristics almost analogous to those of true bone, distinct bone-cells, etc., existing. The brain weighed fifty-two ounces, and but for its atrophied condition at the time of post-mortem examination, would, doubtless, have been much heavier.—(*Edinburgh Medical Journal*, January, 1860.)

II.—*Curious Phenomena from the Presence of a Tumor in the Fourth Ventricle of the Brain.* By ALEXANDER WOOD, M.D., President of the Royal Col. of Phys., Edinburgh.

The pathology of the brain, as Dr. Wood remarks, is often our best guide in ascertaining its physiology. It is by the accumulated evidence of symptoms and dissections, that we may occasionally learn much that is interesting in cerebral physiology. In the case recorded by him, post-mortem examination revealed the presence of a tumor lying with its apex in the fourth ventricle, covered on its sides by gray cerebral matter, the remains of the valve of Vieussens, and obstructing the iter e tertio ad quartum ventriculum. The bed of the tumor was formed at the expense of the floor of the fourth ventricle, especially on the right side, and of the corpora quadrigemina, the testes being entirely removed, and the greater part of the nates. It pressed upwards upon the sinuses in that situation, and must have caused some obstruction to the current of blood from the venæ galeni into the straight sinus. The tumor presented all the characters of medullary cancer.

The patient, then a young lady of sixteen, was first seen in 1851, complaining of general debility, but without any marked symptoms of disease. She soon acquired robust health under the use of chalybeate tonics and sea-bathing; her mental powers and vivacity were developed beyond her years, and her imaginative faculty was extraordinarily quick. Two years afterwards, it was noticed that her fondness for reading and the exercise of her intellect had given place to carelessness of her studies. In 1855, she suffered from amenorrhœa and general debility, the extent of which could scarcely be accounted for from the constitutional symptoms. In 1856, her sight began to be impaired, and she had not full power in directing the movements of her limbs. During all this time, and, indeed, through all her illness, she presented the picture of perfect health; the dimness of vision she ascribed to the reading of small type; the weakness of the limbs Dr. Wood hoped might be accounted for by the menstrual suppression. In March of that year, the symptoms became greatly intensified—there was decided dragging of the right leg, the eyes seemed prominent and staring, and rolled as if she had not the power of controlling their movements. Cerebral mischief, before suspected, was now positively diagnosticated by her physician.

In the summer of 1856, she was unable to walk unsupported; the pupils were dilated, and soon afterward she was able only to discern light from darkness. She suffered from occasional convulsions; the intestinal canal became totally inactive, rarely responding to the action of powerful purgatives, and she was unable from this time, the summer of 1856, up to the time of her death, to pass a single drop of urine unless the excito-motory system was stimulated. The difficulty appeared to depend partly on the absence of sensation, or of the centripetal nervous influence in the bladder itself, and partly on paralysis of the abdominal muscles. Mental excitants, such as a fit of laughing, caused the urine to flow freely, and a like effect was produced by the dashing of water on the abdomen. Her mind continued active, and her memory became extraordinarily developed.

After several weeks of mitigation of the prominent symptoms, she had decided prodromic evidences of meningitis, in December, 1856, as well as in July, 1857, both of which attacks were averted, however, by remedial agents. In October, 1857, she complained of noises in her head, like the ringing of bells or the rushing of a torrent, and visions of balls of fire before her eyes. Yet her intellect was still astonishingly clear. A curious peculiarity was that she had, regularly on alternate days, her dark day and her light day—seeing black objects like coffins on the former, and flashes and balls of fire on the latter day. Her eyes would not, to a casual observer, indicate blindness. Her arms became paralyzed, and useless to her, and she lost flesh rapidly. As her physical sufferings became greater, her intellect and memory seemed to acquire wonderful strength. From the 3d of January, 1858, to the 8th, (the day of her death,) she suffered from excessive vomiting and intense headache, the pain recurring on one or two evenings at hourly intervals. On the eighth of January, the paralysis extended to the pharynx, and in the evening the muscles of the left side of her face became violently convulsed for nearly an hour. Her face had the appearance of perfect health, her intellect was quite clear, she directed the attendants where to place the local applications to her head, and had just asked that her lips might be wiped, when she died.

In this remarkable case, it is not a matter of surprise that general paralysis should have occurred, when we know how deeply the thalamus opticus was found to be implicated by the tumor. The pressure on the optic tubercles would account for the amaurosis, while the position of the fourth nerve, as regards the tumor, might account for the curious rotation of the eyeball. Perhaps the most remarkable point in the history of the case was the uninterrupted continuance of intellectual vigor, and increase of memory, and the absence of stupor until immediately before death, while we may find as much difficulty in explaining the curious regular alternations of vision—"the photopsic and chromopsic appearances" which Dr. Wood has well described. It may be remarked, in regard to the difficulty of micturition, from which she so long suffered, that strychnia, nux vomica, and the other so-called reflex stimuli, were totally inefficacious in restoring the power of emptying the bladder.—(*Edin. Med. Jour.*, Jan., 1860.)

III.—*Effect of Cerebellar Hemorrhage on Muscular Motions.* By M. HILLAIRET.

The functions of the cerebellum have long been studied by physiologists, and many experiments made by vivisection to determine how any lesion of that part of the cerebro-spinal axis might affect the movements or sensations of the animal. The theory that this important nervous organ presides over motion receives confirmatory evidence from a case described to the French Academy of Sciences by M. Hillairet. A man of very advanced life was seized with an apoplectic attack, attended by no loss of intelligence during its continuance. He had severe cephalalgia on the right side, and it was upon the right side that he fell at the commencement of the attack. He lay upon this side also, a sort of rotation of the body occurring, and every attempt to move him occasioned vomiting or nausea. After the disappearance of some of these symptoms, it was found that attempts to rise or stand up occasioned a fall forward or to the right side, while, at every effort at motion forward, his legs took a different course from that intended. Cerebellar hemorrhage was diagnosticated, and M. Hillairet had the satisfaction, several months afterwards, when the patient died of the effects of a cerebral hemorrhage, to find the trace of a previous hemorrhage in the centre of the white substance of the right hemisphere of the cerebellum, as well as a more recent clot on the left thalamus opticus. The latter had produced hemiplegia of the opposite or right side of the body.

The details of this case seem to favor the views of M. Flourens and other physiological inquirers, that the cerebellum is the great regulator of locomotive movements, and also bear out the assertions of other observers, that injury to the cerebellum produces a recoiling movement, independently of every effort which the will is making to a forward direction.—(*London Lancet,* Dec. 3, 1859.)

IV.—*Cerebral Symptoms Independent of Cerebral Disease.* By CHARLES WEST, M.D.

In a lecture delivered at the Hospital for Sick Children in London, Dr. West made some general remarks upon the importance of distinguishing between diseases of children depending on cerebral causes, and those which presented merely cerebral symptoms. "Do you think his brain is affected?" is a question frequently asked, and the physician's reply must be governed by his knowledge of the distinctions between true cerebral disorder and that which similates it. Heaviness, drowsiness, a feeling of unrest, are precursory symptoms of so many affections, that it becomes necessary to detect, if possible, their real import. The younger the child, of course the more difficult will be the diagnosis. Dr. West considers three or four important points:—

1st. "The cerebral symptoms that usher in the attack, or accompany the early stages of fever." The more violent these are at first, the less likely are they to be dependent on disease of the brain; violent convulsions, for example, at this stage, being almost always connected with some morbid condition existing elsewhere. So, too, in the early stages of eruptive fevers, as measles and small-pox, convulsions of a violent nature occur, but disappear on the decided appearance of the eruption. When, however, very severe convulsions precede an attack of epidemic scarlatina, the prognosis may generally be formed of a malignant type of the disease. At a time when epidemic scarlet fever visited Dresden, in 1831 and 1832, cases were seen of intense cerebral disorder without any eruption, differing from inflammation of the brain in the rapidity of attack and in the absence of many of the symptoms, and yet, by post-mortem examination, the conclusion was arrived at that these were cases of scarlatina, in which death had taken place before time was given for the manifestations of the disease. Sometimes a question arises whether the affection of the little sufferer is tubercular hydrocephalus or typhoid fever; but the character of the cerebral symptoms is different, and age also may often determine the diagnosis,—the younger the child the less likely the disease to be hydrocephalus.

2d. "Those [symptoms] which at the outset of acute inflammations of the thoracic viscera sometimes throw the evidences of the real disease into the shade." Pneumonia and pleurisy, for instance, occasionally commence with a convulsion and vomiting, and delirium may follow, while the cough may be slight. Looking at the preponderance of severe cerebral symptoms over the evidences of thoracic disorder, cerebral congestion, hydrocephalus, or typhoid fever may be alike erroneously diagnosticated. But the physician cannot long remain in error, especially if he has the diagnostic skill to recognize the absence of many of the symptoms of diseased brain.

3d. "Those [symptoms] dependent on some disorder of the abdominal viscera," etc. Convulsions from such causes depend often on the indigestible character of the food supplied to the child, but the history of the case, the condition of the abdomen, and the peculiar character of the convulsion will generally establish the diagnosis. In diarrhœas, and relapses of diarrhœas, a condition may supervene, where the case has been persistent, in which irritation and exhaustion may produce symptoms like those of inflammation of the brain—hydrocephaloid disease, a kind of spurious hydrocephalus. The same condition may arise from the gradual influence of imperfect nutrition, the cerebral symptoms coming on slowly and insidiously. As fatal results may follow this imitative disease as attend true inflammation of the brain, and yet if a treatment be adopted which aims at correcting the cause, instead of one founded upon a faulty diagnosis, such results may be averted.

4th. "Chronic cases, in which cerebral symptoms occur and are likely to be misapprehended." Dr. West briefly sketches a few of these, such as temporary but long-continued dulling of the faculties after fevers, altered temper, a precociousness which becomes alarming from its unexpectedness, neuralgic headache, so often thought to be the precursor of mental disease in children, etc.

In these warnings against the errors which may so readily occur in a hurried diagnosis, Dr. West has given valuable hints and suggestions of dangers which may attend the practice of physicians of any age in their care and management of the young sick.—(*Medical Times and Gazette*, December, 1859.)

V.—*Fatty Degeneration and Acute Softening of the Liver, with Entorrhagia.*

By M. L. MARCQ.

M. Marcq presented to the *Société Anatomo-Pathologique de Bruxelles*, in May last, a pathological specimen of diseased liver, on which he made some practical remarks. A young girl, apparently in perfect health, had suddenly been attacked with rigor and nausea, for which she could assign no cause. She soon after passed by the bowels a small quantity of blood. This condition of nausea and general indisposition lasted for several days, at the end of which time she was brought to the Hôpital Saint-Pierre, with intense headache; her abdomen was tympanitic, her hepatic region very painful. When Professor Uytterhoeven first saw her, she presented the appearance of a parturient woman at the commencement of puerperal intoxication, lying on her back, her limbs completely relaxed, her countenance expressing painful and profound prostration. Her general hue was that jaundiced tint by which malarious impression so often leaves its mark. She was conscious, although roused with difficulty to the proper attention. In the evening of the same day, the skin was cold, the pulse frequent but small, her desire to eat very great, and every evidence existing that the case was a rare form of affection, to which the attention of the hospital had not previously been directed. Professor Uytterhoeven had seen a similar case at the Hôpital St. Jean, and from his recollection of the pathological appearances then revealed, diagnosticated this to be a form of acute softening of the liver.

The treatment adopted was more expectant than active. The sulphate of quinia, which at first suggested itself, was deemed too irritating in the existing condition of the alimentary passages. The next night the patient died, four days after the appearance of the first symptoms. On a post-mortem examination, thirty-six hours after death, the liver was found to be the only organ seriously affected. Its surface was adherent to the diaphragm, and covered with patches, the results of inflammation, which extended into the substance of the organ. The liver was intensely yellow, softened, and diffluent under pressure of the finger. Microscopic examination detected numerous fat globules swimming in an almost colorless liquid, and but few traces of the true substance of the organ. Nearly a quart of black, grumous blood was found in the stomach and intestines. In this case no atrophy of the liver occurred, although existing in the cases recorded up to that time. M. Marcq, therefore, prefers the name which forms the heading of this abstract to that of *acute atrophy*, which had previously been given to the disease.

English and German writers were the first to describe the pathology of this comparatively rare affection. The views of Dr. Fried. Frerichs are cited in regard to the symptomatology, pathological anatomy, and treatment of the affection; but the general summary presents, in different degrees of intensity, the same general symptoms as those described above, while the treatment seems to be founded more upon general principles than upon any specific modes of relief. —(*Annales de la Société Anatomo-Pathologique de Bruxelles, Bulletin*, No. 2, 1859.)

VI.—*Chylous or Milky Urine.* By C. E. ISAACS, M.D.

The Transactions of the New York Academy of Medicine, vol. ii. part iv., contain interesting remarks upon a rare form of disease, whose pathology is not definitely settled. Two illustrations of the affection occurred at the Seamen's Retreat, Staten Island, under the care of Dr. T. C. Moffatt, chief physician of that institution. The first case was a Spaniard, who was admitted November 13th, 1858, for abscess of the scrotum. He had noticed three years previously that his urine was occasionally of the color of milk, and remained so for several years. It is now noticed that the urine voided after meals is always milky. When retention sometimes occurs for a few hours, the ejection of a long, fibrinous coagulum precedes the flow of milky urine. He had had gonorrhœa and syphilis, and had taken large quantities of mercury and iodide of potassium. Long-continued pain in the lumbar region preceded the first apparent change of color in the urine. The early morning urine is clear, but becomes milky after breakfast.

When subjected to examination, it was found to coagulate by heat, nitric acid, and alcohol. That the milk-white color of the urine was due to an intimate mixture of oily matter with albumen, forming a kind of emulsion, was proved by agitating a small quantity of the urine with sulphuric ether. The urine instantly separated into two distinct portions; the upper layer, of a deep-yellow color, being composed of the ether; while the inferior layer, brownish-yellow and semi-transparent, consisted of albumen. The upper layer left, on evaporation, a copious deposit of oil. No red globules or tube-casts were discovered, after very careful examination. To sum up the various results of chemical tests and microscopical examinations, it was conclusively exhibited that the principal normal constituents of the urine, probably all of them, were present. The same results were obtained from different specimens. He took gallic acid, ℈j to ʒss, three times a day, but was sent home before any beneficial result that might follow could be studied.

The second case, a native of Santa Cruz, a sailor, who had been occupied for five days in taking in a cargo of spirits of turpentine, was admitted in 1855 for hæmaturia, and was soon after discharged cured. In a subsequent voyage, while at Sidney, N. S. W., he was under treatment for periosteal swelling of the tibia, and ten weeks before sailing he experienced constant desire to urinate, and noticed that small clots of blood at times interrupted the free flow of urine. Soon after sailing, he observed that his urine was milky, and he was obliged to urinate about twenty times in the twenty-four hours. The appearances in this case differed somewhat from those observed in the other. The urine became like solidified jelly five minutes after it was voided; fibrinous lumps and strings passed with the fluid—some of them yellow, others reddish—varying in size from a pea to a large pigeon's egg; all contained myriads of red globules. When the urine was allowed to stand, a red layer formed at the bottom of the vessel. The odor of the urine was, in both cases, that of moist clay. No oil globules were detected under the microscope in the fluid portion that remained after the separation of the coagulum. Nitric acid produced coagulation, but this result was not attained by the application of heat until several weeks afterwards. He was put upon the use of gallic acid, and afterwards upon tannin and alum. In October, 1858, he passed a gallon a day; and this quantity was not influenced by diet or exercise. Gradually, under the use of good diet, the milky appearance disappeared and the coagulum became very slight; but he finally passed into a typhous condition, which terminated in death early in 1859.

Post-mortem examination of the kidneys showed them to be in a healthy condition.

In a case reported in the *Medical Times and Gazette*, by Dr. Bence Jones, the patient had passed milky urine for twenty-five years. Dr. Golding Bird relates the case of a woman who passed milky urine on rising from bed. Other cases are reported by different writers. The cause is, probably, exposure to external influences, and in the second case mentioned by Dr. Isaacs, perhaps inhalation of spirits of turpentine, while, so far as has been observed, it is a disease of hot climates. Dr. Isaacs arrives at several conclusions, founded on recorded cases and opinions:—1. That the disease may continue for months and years without much apparent injury to the general health. 2. That there may be intermissions of healthy conditions of the urine, perhaps in the same day. 3. That there may be little or no emaciation, and the patient may abound in adipose tissue. 4. That, generally, the fatty matter appears in the urine after eating.

5. That astringents, and especially gallic acid, seem beneficial, but that the disease is very rarely under the permanent control of medicine. 6. That in two cases examined, the kidneys were healthy. 7. That there were probably no organic lesions of any other organs.

We coincide with Dr. Isaacs in the remark that the number of cases recorded has been so small that the true pathology cannot yet be readily determined.—(*Transactions of the N. Y. Academy of Medicine*, vol. ii. part iv., 1859.)

OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN.

BY WM. B. ATKINSON, M.D.,

LECTURER ON OBSTETRICS AND DISEASES OF WOMEN AND CHILDREN.

I.—*Post-Partum Hemorrhage: its Prevention.* By T. Gaillard Thomas, M.D., of New York.

The frequency of this form of hemorrhage is, in a great degree, due to a neglect of the proper measures for its prevention. Contraction of the uterus, and that alone, will check any hemorrhage from its cavity. The causes of this accident of labors are inertia uteri, uterine exhaustion, sudden emptying of the womb, adherent placenta, accumulation of blood in the uterus, mental emotion, and an excited state of the circulation. The means for the prevention of hemorrhage are the observance of the following rules: After delivery of the head, permit the uterus to expel the body, unless it be absolutely necessary to interfere.

Let the hand of an assistant firmly compress the uterus, and follow the child down in its birth.

After the delivery, let the uterus be constantly held in the hand until the bandage is applied. Never apply the bandage until the delivery of the placenta. If the placenta is detached, remove it within twenty minutes. Avoid stimulants during and after delivery.

Remain in the *lying-in chamber* for one hour after delivery. Before leaving the house always apply the child to the breast. Enjoin perfect quiet and exclusion of visitors.

If there is reason to anticipate hemorrhage, give ergot as the head is passing the perineum.

He analyzes each rule, and gives his reasons for it in detail.

He objects to the application of the bandage prior to the delivery of the placenta, because it becomes saturated with the blood which has collected, and that which accompanies the expulsion of the placenta; it prevents the observance of the second and third rules, and the recognition of the dilatation of the uterus; its application annoys the patient when she most needs rest, and possesses little value to prevent harm. In the wards of Paul Dubois, at Paris, the bandage is never used, and yet hemorrhage is as rare there as elsewhere. Stimulants should only be used when required by syncope or extreme debility, as they increase the force of the heart's action, render the patient restless and uncomfortable, and produce an excited condition predisposing to hemorrhage. A large majority of the cases of hemorrhage occur within the first hour, and especially the first half hour succeeding delivery; hence the propriety of remaining, as the physician can at once meet the impending danger when it is first commencing to be formidable.

The application of the child to the breast exerts a reflex influence upon the uterus of a most salutary kind. This has even been found to act by increasing pains which are tardy in labor; it has been recommended by Scanzoni to apply a child to the nipples, or for the nurse to stroke or otherwise irritate them. Rigby and Marshall Hall equally agree upon the value of this method. The value of the other rules is too obvious to require extended remarks.—(*New York Journal of Medicine*, January, 1860.)

II.—*Uterine Catheterism with Cat-gut, as a Means of Producing Artificial Premature Labor.* By DR. C. BRAUN.

In substituting the cat-gut for the uterine sound, and injections, M. Braun proposes especially to avoid those lesions of the membranes to which the employment of the other two methods so easily gives rise. The bougies which he uses are one foot in length, and two or three lines in diameter. Before introducing one of these into the uterus, it is softened at one end to the extent of a third of an inch, by being dipped in hot water. It is then anointed and passed into the uterine cavity, directed by the index finger of the left hand, and pressed in by a gentle rotation. It should be arrested after having passed about twice the breadth of the finger into the orifice of the neck.

M. Braun prefers these bougies to gum-elastic probes; he has always observed them to provoke the pains about the end of twenty-six hours. He withdraws the bougie a short time prior to the rupture of the pouch of waters or the birth of the infant. He has employed uterine catheterism, either with the cat-gut or with the elastic probe, twelve times during the years 1857 and 1858, for the purpose of producing premature labor; of sixteen infants, he recorded eleven who lived, and five still-born. Eight mothers were saved, and the four who died succumbed to causes foreign to the operation, as pneumonia, tuberculosis, Bright's disease. The operation was performed five times with the cat-gut, and four times with French, very flexible, gum-elastic probes; in none of these cases were the membranes broken. This accident, on the contrary, he was not able to avoid in three cases where he employed probes which were very slightly flexible, obtained from English instrument makers.—(*Wiener Medizinische Wochenschrift*, 1858, No. 46; *Gazette Hebdomadaire*, December 2, 1859.)

III.—*Retroversion of the Uterus in Pregnancy.* By R. BARNES, M.D., etc.

Retroversion of the gravid womb is a displacement by which the organ is dislocated from its normal erect, or slightly forward inclining attitude, and thrown back, revolving on its transverse axis, so that the fundus becomes impacted under the projecting promontory of the sacrum. In most cases the *cervix* and *os* are carried upward and forward behind the symphysis. There is more or less of retroflexion accompanying this affection. There are two distinct forms; in one it is produced gradually, in the other suddenly. Retroversion is exceedingly rare in women pregnant for the first time. In the gradual forms there exists some degree of prolapsus at the time of conception and afterwards. The uterus being thus low in the pelvis, grows in that situation, and on reaching a certain size, instead of rising out of the cavity, it projects itself against the promontory. Continuing to enlarge, it is gradually turned upon its transverse axis. When it fills the pelvis, the symptoms of pressure are developed. The obstruction of the bladder, formerly slight, is now constant. In the sudden form, it is produced in a different manner, although here too there must exist a predisposing condition. Under powerful straining efforts, the pressure of the abdominal muscles is thrown upon the *fundus uteri*, which is thus driven back under the promontory. Or, a woman encounters a violent concussion, and it is found that the womb has been thrown down within the pelvis.

The prominent symptoms are the great desire to empty the bladder; hence arise straining, tenesmus, and pains simulating those of labor. To these may be added uræmia, if the bladder is not relieved. The diagnosis may be made by examination, externally, of the abdomen, per vaginam, per rectum, and per vesicam. When the tip of the finger enters the vagina, it is arrested by a solid globular body, only permitting the finger to pass up with difficulty between it and the symphysis, where the *os uteri* will be found close behind, and above the level of the *crista pubis*. Per rectum, a large, solid, globular tumor will be found in the hollow of the sacrum, compressing the rectum. The examination per vesicam must be made with a male flexible catheter, directed well forward. When the bladder is empty, the abdominal tumor, which may at first have been mistaken for a gravid uterus or dropsy, has disappeared. The abdominal walls become flaccid, admit of free examination, and, on feeling above the pubes for the womb, that organ is not found. Hence the conclusion is that the tumor felt per vaginam, filling the pelvis, is the gravid uterus.

The treatment must vary according to the state of the case. The bladder must be emptied three or four times in the twenty-four hours. Unload the rectum by warm water enemata. Then, by making the woman lie in the prone position, with the pelvis raised, frequently spontaneous reposition will occur, and the cure be effected.

If more serious, manipulation must be employed. Never attempt to hook down the *cervix* by pressing the finger on the *os*. Introduce the whole hand into the vagina, doubling the fist, and apply the flat surface made by the first phalanges to the fundus, and thus make pressure. The fingers alone, thus applied, would be extremely liable to cause detachment of the placenta, should it lie upon that wall of the womb thus pressed and indented. At the same time, the patient should be placed on her elbows and knees to obtain the aid of gravitation. Reasonable force *only* must be employed. If the attempt fails, give an opiate, and let her rest. Next time employ chloroform, and place the patient on her left side, in the usual obstetric position. Should reduction still be impracticable, and the symptoms be urgent, lessen the bulk of the distending body, by producing abortion. The liquor amnii may be evacuated by a catheter, or a douche bath applied. Finally, puncture the walls of the uterus. If this is attempted by the vagina, the trocar must be directed perpendicularly to the uterine walls, hence point it obliquely backward to the hollow of the sacrum. After the evacuation of the liquor amnii, as the danger is less urgent, the attempts to reduce the uterus may be suspended for awhile. Nature will expel the contents of the womb, and by involution its bulk will be lessened, and there will be a spontaneous termination of the difficulty. Opium and chloroform are the most useful means to relieve pain and spasms. Stimulants and nourishment must be given to support the strength, and uræmic poisoning may be met by nitromuriatic acid and ether.—(*Lancet*, December 3, 1859.)

IV.—*Exhaustion after Suckling.*

Protracted suckling, especially when the supply of milk is scanty, is often followed by extreme debility and exhaustion, with the presence occasionally of various anomalous symptoms. A young woman aged twenty, the mother of two children, was treated at St. Bartholomew's Hospital for an attack of this kind, associated with diarrhœa. She gradually became much exhausted, had fits of shivering, with cold night-sweats. Some six weeks prior to admission, the diarrhœa set in, and remained persistent; it stopped two or three times and recurred, and thus assumed an intermittent character. She was ordered four ounces of wine and suitable nourishment, and an aromatic draught containing eight minims of tincture of opium. The diarrhœa was completely checked, and she began to gain flesh and strength. This is but one of many such instances, illustrating the folly of mothers in persisting to suckle their offspring when their strength will not permit. In other cases, dimness of vision comes on, and even temporary amaurosis has occurred.—(*Lancet*, December 3, 1859.)

V.—*Two Cases of Closure of the Womb Successfully Treated.* By R. L. MACDONNELL, M.D., of Montreal.

Case 1. A married lady, who had suffered for some months with uneasiness in the lower part of the abdomen, dysuria, pain and fullness over the region of the ovaries, accompanied by a constant creamy discharge from the vagina; she had not menstruated for six months, and was fast losing flesh and strength. On examination, the abdomen was found to be soft, soreness was felt on pressure above the pubes, and over the inguinal region; evidences of inflammation of the cervix uteri extending to the body of that organ, together with acute vaginitis, were discovered. The sufferings were great during the acts of defecation and micturition. Large doses of morphine had been taken to relieve the intolerable agony. The treatment consisted of scarifications of the cervix and the application of argenti nitratis to the inflamed surface, followed by sedative and astringent lotions. These produced almost immediate relief, and though the narcotics were discontinued, she slept well from the first day. Within a fortnight she was quite well.

About six months after, similar symptoms arose, and from various causes she was unable to see Dr. MacDonnell for more than a year, and though treated by other physicians, with cauterizations, etc., no improvement was observed. When again able to place herself under his charge, she was thin, weak, very anæmic, had an excessive elevation of the right inguinal region, a well-developed ovarian enlargement, from whence shooting pains extended to the loins and thighs, having been compelled again to resort to large doses of morphia. On an examination by the speculum, the vagina presented a pale appearance, the cervix shortened and indurated; the os being closed by a dense, resisting membrane; with a diminution in the capacity of the vagina, and a contraction of all the structures. The uterus was not larger than natural. General treatment was employed, and counter-irritation over the inguinal region, under which much improvement was produced, with the exception of the distressing pains. In order to remove the obstructions of the os, he engaged the cervix in the speculum, ascertained a central spot which offered least resistance to a probe, painted cerate around it, and then applied potassa fusa by means of a sharp point of wood dipped in the caustic, rendered deliquescent by exposure to the air. Vinegar was then used to neutralize the escharotic, and in a few days a small slough fell out. The operation was repeated, and after a few days more a fine cat-gut bougie was introduced through the opening into the cavity of the womb. One of Guthrie's urethrotomes was passed in, and two incisions made, after which a No. 12 gum-elastic bougie was inserted daily, and allowed to remain for some hours. The general health was now completely restored, she became regular, and the cure was complete.

Case 2. A stout, plethoric female, aged thirty-five years. Had "closure of the womb" for nine years. Before this occurred, she was instrumentally delivered, after a tedious labor, of a dead child. She never menstruated afterwards. Six years after the delivery, the vagina was found to be closed, about half way between the orifice and the cervix, by a strong membrane, which was divided by a crucial incision. This gave exit to a small quantity of bloody fluid, which continued to flow for several days. She returned home, and after three years again consulted Dr. MacDonnell, who then, on examination, found the abdomen much enlarged, the vagina terminating in a cul-de-sac. She seemed in perfect health, yet daily suffered the most excruciating torments, which lasted for three or four hours. He proceeded to operate as before. Made a slough with the caustic, enlarged the opening by tents of gentian root, till a full-sized gum-elastic bougie could be introduced. Yet no fluid passed, nor were her sufferings relieved. A metallic catheter could only be passed an inch and a half. By further examination he found, as above, the cervix with the os closed by a dense structure. While the fundus uteri was pushed down by the left hand, he made some crucial incisions with a bistoury, and this not seeming to open the cavity, he passed up the index finger of the right hand, which, after some manœuvres, entered the cervix, and immediately a gush of a dark fluid, like treacle, took place. About half a gallon escaped, and the flow continued for two or three days. The abdominal tumor subsided, the pains were all gone, shortly the menses returned, and the cure was complete.—(*British-American Journal*, January, 1860.)

VI.—*On Granulations of the Lining Membrane of the Uterus.* By DR. JAMES TRUDEAU, of New Orleans.

This affection, though frequent in the South, is comparatively rare in the Eastern States and the north of Europe. Uterine fungosities are true *fibro-*

plasms, located in the neck and cavity of the uterus, and are found in two forms.

1. Small tumors, with a wide base, springing directly from the mucous membrane; in size varying from that of a pin's head to that of a strawberry, the larger being often pediculated. The surface is rough and irregular, of a soft consistency, the growths being easily detached. The color varies from pale pink to red. This variety is generally found near the implantation of the Fallopian tubes, and is designated by the name of *cellulo-vascular vegetations*.

2. Pediculated vegetations, smaller than the preceding; of a grayish color, of a greater density, elastic, and smooth. Generally found in the neck and inferior segment of the uterus. These are not readily detached, and are the *cellulo-fibrous vegetations*.

According to M. Charles Robin, these vegetations consist of a hypertrophy of the mucous membrane, with numerous cells, fibro-plastic elements, and an increased vascularity for the first variety. The second has the same structure, with fewer vessels, and is protected by a layer of epithelium. They are both sometimes found together, and sometimes are observed at the orifice of the *os uteri*, bulging out of the canal.

The symptoms consist at first in an increased menstrual discharge, which soon becomes a profuse hemorrhage, succeeded by watery leucorrhœal effusions. The latter is sometimes very painful. Dysmenorrhœa occurs; the menstrual periods encroach on each other, causing the patient to be constantly flooding; the digestive functions are disordered, with the accompanying train of symptoms of dyspepsia; sharp pains are felt at the lumbar, sacral, and hypogastric regions; or there is a painful spot in one of the iliac regions, extending to the corresponding limb. The patient loses flesh rapidly; the features assume that peculiar cast of countenance observed in many uterine disorders (*facies uterina;*) the skin loses its softness and brilliancy; the eyes are sunk deeper in the orbit, and surrounded with a bluish circle; the extremities are always cold, even during the warmest weather. Examination by touch shows an enlarged uterus, and softness of its walls. The vaginal portion of the neck is often hypertrophied, and softer than usual; the canal much dilated. The speculum discloses an open *os*, discharging a thick, tenacious, transparent, yellowish-white mucus. The neck is congested, and dotted with minute superficial excoriations. The sound is easily introduced when the disease has extended to the cavity of the womb. Otherwise, much difficulty is experienced in passing it. When introduced, it can be moved in any direction, showing the increased capacity of the organ. The introduction often causes hemorrhage. There is no pathognomonic symptom, yet, with care, the differential diagnosis may be made. Uterine polypi may simulate this affection, yet an error of diagnosis in this respect would be of no importance, as the treatment is the same. In a case of simple menorrhagia, the hemorrhages, patulous condition of the os, and softness of the vaginal portion of the neck, may induce the belief that they are due to the presence of fungosities. In both dysuria and this affection there are severe lumbar and hypogastric pains. In menorrhagia the hemorrhages occur at the menstrual periods; in the other affection, they are almost continuous. The leucorrhœa is generally confined in the former to a few days before and after the periods; it is constant in the latter. In the former, the cavity of the neck is pale; in the latter, it is red and congested. The affection progresses slowly; the prognosis is generally favorable, and only otherwise from complications. M. Nélaton says this affection is observed in females who have passed the prime of life; seldom before the twenty-fifth year, and oftener at thirty-five. M. Richet confirms this, (which is in perfect concurrence with our own observations,) and remarks further, that it can always be traced to a confinement or miscarriage.—(*N. O. Med. and Surg. Jour.*, January, 1860.)

VII.—*Diagnosis of Ovarian Tumors.*—By WASHINGTON L. ATLEE, M.D., of Philadelphia.

When disease of the ovaries is going on, slight evidences exist prior to its rise above the brim of the pelvis. After that, there is found a tumor, varying in size, of an oval form, and to one side of the median line. In examining, the patient should be on her back, and slightly covered. The tumor is circumscribed, elastic, movable, seldom sensitive. As it increases, it takes a more central position, and encroaches on the abdominal contents. If unilocular, fluctuation does not extend beyond the borders of the tumor. If multilocular, hard masses will be felt. Percussion gives a flat sound over the tumor, and a resonance at its borders. All these symptoms may be absent, or diametrically opposite, and yet ovarian disease be present. Usually, the general health is undisturbed. At other times there may be indigestion, and its accompanying troubles, diarrhœa, hemorrhoids, anasarca, dyspnœa, and great emaciation. The catamenia may go on naturally or may be absent, hence this point is of small moment. When the form of the abdomen is symmetrical, the cyst may be inferred to be unilocular; when elevations and depressions are observed, it is multilocular, or there are solid growths. The examination should be carefully repeated, with the patient lying on each side successively, as well as supine, and semi-recumbent. The evidence obtained should then be compared, and if the dullness is the same, the resonance and fluctuation do not vary, the tumor may be considered as ovarian. A rectal and vaginal examination are equally necessary. The uterus may be displaced in a variety of ways. There may be also prolapsus of the bladder and vagina. The womb-sound will enter the uterus about two and a half inches. The isolation of this organ is of value in regard to operating. Tapping is an important means of diagnosis, but should only be used to relieve urgent symptoms, or to decide the question of an operation, which should never be performed without it. In the only two operations in Philadelphia, where no tumor was found, previous tapping was omitted. A large trocar and canula should be employed; the lancet being highly dangerous, as, if adhesions do not exist, the fluids may be poured into the cavity of the peritoneum. The position should be on the back in bed, with the head and shoulders elevated. The point for inserting the trocar should be in the *linea alba*, about two to four inches below the umbilicus. It is better also to slit up the *cutis vera* with a bistoury, and then insert the trocar. Dry tapping can never occur when fluctuation has been previously ascertained. An unadherent unilocular cyst will sink as the contents flow out, and the resonance on percussion will be above where a dull sound was formerly heard. Tumors vary in composition; thus there may be a number of cysts, and as one is emptied, it sinks, and the trocar must be passed in to the others. A rare complication is a large ovarian sac, immersed in a great quantity of peritoneal fluid. On tapping, this escapes, and the existence of the tumor becomes evident. This being perforated, a different liquid is found. Sometimes the contents are viscid and will not flow out. In cases of colloid tumor, fluctuation may exist without any fluid. This is valuable negative testimony. The discharge must be examined, chemically and microscopically. It may resemble starch-water, coffee, dregs of urine, soapy water, etc. It may be green, inky, gelatiniform, purulent, etc., or contain crystals of cholesterine, tufts of hair, and other substances.

When a clear, transparent serum flows out, care should be taken, as this rarely comes from an ovarian cyst. If albumen is present, heat or nitric acid will produce coagulation. By the microscope, cell forms will be found in abundance, rich in oil, combined with blood globules, epithelial scales, pus, and pyoid forms. The peculiar cell is of a fine granular appearance. There is no other fluid corresponding in character, hence a fluid with these characteristics may be regarded as pathognomonic of ovarian disease, and in a large majority of cases will be perfectly reliable.—(*Philadelphia County Medical Society.*)

VIII.—*Ovarian Tumor Simulating Pregnancy.* BY W. C. B. FIFIELD, M.D., of Weymouth, Massachusetts.

The patient, aged twenty-four, mother of one child, in April perceiving a change in her health, felt certain she was pregnant. Vomiting came on, ceased for a fortnight, and again occurred, continuing irregularly for awhile, and *then continued day and night* from the last of July till the last of October. She was confined to bed most of the time; all food was rejected except molasses and water. Remedies best borne were calomel and effervescing draughts. The menses were regular till September. Occasional pains were felt in the back and abdomen for some months. She increased in size so rapidly, that by the sixth month she was much larger than a woman commonly is at the ninth. No motion was felt. Urine scanty. Dyspnœa not marked. In October she was much emaciated, there was no œdema, the tumefaction of the abdomen reached to the ensiform cartilage; fluctuation evident; the form of the belly was completely that of pregnancy. Directly below the pubes a hard body was felt. No trace of the uterus could be found, on examination by the rectum. A catheter was easily passed into the bladder; very little urine. No hardness or irregularity were to be felt in the abdomen. Upon auscultation with a Camman's stethoscope, no placental souffle was heard; but Dr. Fifield thought he could hear the fœtal heart at the right side. In opposition to its being simple ascites were the form of the belly, flattened at the sides; absence of œdema of the legs; the fluctuation, although present, gave the idea of the presence of but a small quantity of fluid; the umbilicus not being protruded or thinned; the finger, thrust suddenly into the umbilicus, came down upon a solid tumor like the fundus of the uterus; the absence of thirst.

Opposed to its being pregnancy were the state of the os and cervix uteri, absence of the placental souffle, and the absence of motion. In favor, were the form of the tumor, the impossibility of detecting the uterus by the rectum, the supposed sound of the fœtal heart, (the absence or presence of the placental souffle being no argument either way,) the vomiting, and the pains felt by the patient. The uterine sound of Simpson could not be passed beyond the os uteri, in an attempt to ascertain whether it might not be dropsy of the amnion. A Vallex's sound, thin and flat, was passed up to the *fundus uteri*, the organ being found completely anteverted, the sound lying almost horizontally, the handle very far back toward the rectum. The body beneath the pubes was the *fundus uteri*.

The patient was turned on her right side, and a large trocar passed through the linea alba, giving exit to a gummy fluid, amounting to about eight quarts. Masses like soft soap also passed out. Death occurred on the twelfth of November.—(*Boston Med. and Surg. Jour.*, December 1, 1859.)

IX.—*Treatment of the Hysteric Paroxysm by Chloroform.* By M. Briquet.

The hysterical paroxysm should not be left to itself, inasmuch as it becomes a predisposing cause of future attacks, and always produces an injurious disturbance of the economy. M. Briquet arrests it by chloroform. A little dossil of charpie is wet with this fluid, and applied to the nostrils, the mouth being closed. In a short time the agitation ceases, and the attack is cut short. After a little time the patient awakes with a slight headache, perhaps the effect of the chloroform, and is soon as well as before. During the first few inspirations the agitation is considerable, and the patient requires to be held; this, however, soon passes off, and a tranquil sleep comes on. Hysterical patients seem to be very susceptible to the effects of this remedy. M. Briquet has used this agent thus for twelve years, yet has never seen either convulsions, coma, or dangerous syncope after it; the resistance is slight, if any, and the convulsive condition imparts to these patients a muscular power and an amount of vital resistance which entirely protects them from the accidents resulting from debility. The remedy succeeds in nine out of ten cases. Those who prove refractory are the robust, of sanguineous temperament, and in whom the attack is very violent. In such, the good results are temporary. Fortunately, they are rare. When the paroxysm seems to originate from a painful point in the limbs or trunk, which is quite common, the same agent applied topically during the intervals frequently causes the pain to disappear, and puts a stop to the attacks thus induced.—(*Med. Times and Gazette*, January, 1860; *Archives Gén.*, xiii., 664.)

X.—*The Mouth to Mouth* vs. *The Marshall Hall Method in Asphyxia Neonatorum.* By A. T. Keyt, M.D., of Ohio.

The case of the asphyxiated new-born child is not quite parallel with that of the adult. The former has never respired; its chest and air-vessels not having been expanded, there is not that resiliency which is so important in the "Ready Method." The case, however, presents many characteristics rendering the old method the most suitable; from the size of the child, it is easily placed in any position; its small mouth can readily be covered by that of the physician, whose force is quite sufficient to expand its delicate lungs; the child is readily quickened into life by contact of the air with its air-vessels; and no difficulty is experienced by the falling back of its tongue. Then, too, under the old method, there are unmistakable signs that the indication is being met, the thorax expands, the air enters; the thorax contracts, the air escapes. A number of cases are related to show its advantages. The "Ready Method" also having been employed in the same cases, its negative qualities were apparent.

It is certainly true that the new-born child bears the deprivation of air with peculiar tolerance, and this is an incentive to persevere. No time, however, is to be lost, but the proper measures at once instituted. The "Ready Method" may act excellently after respiration has been once established, as a means of resuscitation. When compared together, it is evident that the old plan is as ready and easy as the new.—(*Cincinnati Lancet and Observer*, January, 1860.)

XI.—*Hemorrhage from the Bowel in Children as a Sign of Polypus of the Rectum.* By THOMAS BRYANT, Esq., F.R.C.S., Assistant Surgeon to Guy's Hospital.

The connection between hemorrhage from the bowel in children and the existence of a polypus of the rectum is so constant, that it is astonishing that it is not more generally recognized. In the majority of cases under Dr. Bryant's care, it had existed for months; all were under ten years of age, and many had been treated for piles. In some cases the discharge is constant, and in these the polypus will generally be found within, if not protruding from the sphincter. In others, the discharge is occasional, and generally accompanies defecation. There is generally straining after stool. Although the disease is troublesome and debilitating, yet it is easily treated, and rapidly cured. He reports a number of cases, in all of which recovery speedily followed, after the removal of the polypus by means of the forceps.

When hemorrhage is observed, the surgeon should at once examine the part, when the growth will most probably be easily detected. The structure of the tumor is simple, presenting the characters of a fibro-cellular growth. After removal, no treatment is required. Dr. Bryant believes that the cases so frequently reported of children suffering with piles are, in reality, instances of the disease now under consideration.—(*Lancet*, January, 1860.)

XII.—*Laryngismus Stridulus.* By A. JACOBI, M.D., of New York.

This is emphatically an infantile disease, and is observed in both healthy and sick, asleep or awake, playing, eating, or singing. The first stage is a sudden and entire apnœa. Respiration is stopped for a few seconds, or even a minute, the face is pale or bluish, the skin cool, the heart's action scarcely perceptible, the muscular system paralyzed. Reaction, or the second stage, is shown by a violent, deep, crowing inspiration. The third stage is that of complete recovery. In severe cases, there may also be tonic convulsions and involuntary evacuations. It is seldom fatal, and is apt to last for months. Death, when it occurs, is always seen in the first stage. These symptoms can only be explained by a functional trouble, a paralysis perhaps of the spine and nervous centres. Its duration is various, some having it but once, others for months or years. It is most frequent about the commencement of dentition. The mildness or severity of the attacks depends on the constitution and occasional causes. Hypertrophy of the thymus gland has no influence in the production of this disease, as was once thought; hence the name "thymic asthma" is incorrect. It may arise also from disturbance of the alimentary canal, by any cause, as excess in feeding, and dentition. It is highly probable that hypertrophy of the thyroid gland is a cause. The treatment has been very various. The indication is the thorough irritation of the respiratory muscles. Electricity would be of great value, could it be applied at the right moment. The patient should be kept in a sitting posture, allowed plenty of fresh air, the face sprinkled with cold water, and ice or cold water applied to the sternum. Artificial respiration, kept up till the paralysis has been removed, has proved of value. To prevent a return, attend to any cerebral disease. Tonics should be exhibited, if demanded; nutritious and digestible diet given; anti-scrofulous treatment, cod-liver oil, iron, and iodide of iron, etc. Much circumspection is needed in selecting the means of removing the disease. One case recently has shown the necessity of mental education. A little girl aged eleven months was affected so as to become "asphyctic" whenever contradicted. A pailful of cold water was ordered to be kept ready, and poured over her as soon as any symptoms of an approaching attack presented. In the course of a week, three or four such doses proved sufficient to soothe the temperament of the patient, and to entirely remove her attacks of laryngismus stridulus.—(*New York Journal of Medicine*, January, 1860.)

PHYSIOLOGY.

BY S. WEIR MITCHELL, M.D.,

LECTURER ON PHYSIOLOGY IN THE PHILA. MED. ASSOCIATION.

I.—*Notice of Further Researches on the Coagulation of the Blood.* By JOSEPH LISTER, ESQ., F.R.C.S., Eng. and Edin., etc.

AT a meeting of the Medico-Chirurgical Society of Edinburgh, Mr. Lister communicated his views as follows: I may remind the fellows of this Society that, in a paper which I had the honor to read before them the session before last, I brought forward facts which seemed to prove that the ammonia theory does not apply to blood within the vessels of a living animal. That theory asserts that the fluidity of the blood depends upon the presence of a certain amount of free ammonia holding the fibrin in solution, and that coagulation is a necessary result of the escape of the volatile alkali. But it was shown, in the paper referred to, that the blood, in man and other mammalia, though coagulating soon after death in the heart and great venous trunks, remains fluid for days in vessels of smaller size, and this under circumstances affording free opportunity for the escape of ammonia; and, on the other hand, that when a portion of a vessel, either in an amputated limb or in a living animal, is treated in a manner calculated to destroy its vital properties, the blood coagulates in the injured part, but retains its fluidity elsewhere, although there is no greater opportunity for the escape of ammonia in the one case than in the other.

A striking instance of the difference between the natural receptacles of the blood and ordinary matter, in their relations to the vital fluid, happened to come under my notice this morning, in an arm which I amputated at the shoulder-joint last evening, on account of injury inflicted by machinery. On examining the limb, which had lain undisturbed since the operation, I saw that the axillary vein, which was patulous at the part where it had been divided by the knife, contained some blood at a distance of about half an inch from the open orifice; and having squeezed out a few drops, found that it was perfectly fluid, but yielded threads of fibrin when the point of a needle was drawn through it some minutes after emission. The blood had been for twelve hours freely exposed to the air, but being situated in an unwounded part of a blood-vessel, had remained free from coagulation.

I demonstrated also another important principle, viz., that ordinary solid matter, unlike atmospheric air, induces coagulation of blood in its vicinity—when introduced within the living vessels. Having inserted a piece of clean silver wire for a considerable distance into one of the veins of an amputated sheep's foot, I slit up the vessel after a short time had elapsed, when I exhibited a coagulum extending along the whole length of the foreign body; whereas a mere wound of the vein failed to induce a clot, except immediately at the spot where the injury had been inflicted. It was obvious that the introduction of the wire could not affect the amount of ammonia in the blood, and from this and many other facts to which I need not here allude, I was led to the opinion that, as regards what takes place within the living body, the ammonia theory might practically be left entirely out of consideration.

What I have to show now will, I think, prove that, even for blood outside of the body, the ammonia theory, whatever degree of truth it may contain, is very far indeed from representing the whole truth. One of the most remarkable circumstances connected with blood that has been removed from the body is, that it refuses to coagulate below a temperature of 40° F., or thereabout. This is explained by Dr. Richardson, on the hypothesis that the low temperature prevents the evolution of ammonia, while the rapidity with which coagulation takes place at high temperatures seems to him satisfactorily accounted for by the increased volatility exhibited by the ammonia under such circumstances. I was myself disposed at first to accept this interpretation, but subsequent reflection led me to think that, to say the least, it required confirmation. It occurred to me that if it were true that the fluidity of the blood below 40° F. was due to free ammonia retained in it, coagulation would take place immediately, in spite of the cold, if the alkali were neutralized by the addition of acid; provided the fibrin were not impaired in its coagulating property by the reagent employed. In order to ascertain whether this result would really follow, I poured blood freshly shed from a sheep into vessels surrounded by ice-cold water, and by this means succeeded in keeping some portions of it fluid for a considerable time, and found that it continued liquid notwithstanding the addition of diluted acetic acid in what I supposed must be sufficient quantity to overcome the feeble alkalinity of the blood, while the acidulated specimen retained the property of coagulating very rapidly when raised in temperature. But on attempting to discover whether this blood was really acid in reaction, I found that its red color entirely vitiated the indications of both litmus and turmeric; and even the serum obtained after contradiction of the clot was too much tinged to admit of the satisfactory application of the test paper. Being thus baffled in my experiments with the sheep, I had recourse to the horse, in which the red corpuscles subside with peculiar rapidity in the plasma, giving rise to the buffy coat well known to occur in the blood of that animal in the state of health, so that the opportunity would be presented of obtaining liquor sanguinis free from red corpuscles, to which the tests could be applied without risk of fallacy. Accordingly, yesterday afternoon, a horse having been placed at my disposal, by my friend Mr. Gambee, of the New Veterinary College, I tied into the right jugular vein one end of a piece of vulcanized india-rubber tube, four yards in length, the greater part of which was coiled up in a freezing mixture, and some of the blood, having been allowed to remain for a while in the tube, was shed into vessels standing in ice-cold water. Its temperature on first escaping into the air was 39½° F., and having been since kept in the cold, it is still only partially coagulated at the present time, (twenty-nine hours after it was shed.) At first, however, it appeared as if we were likely to fail, the blood of this horse being a rare exception to the general rule, in exhibiting for a long time no appearance of the "sizy" layer. But, after it had stood for about two hours, I succeeded in removing from the surface, by means of a glass tube, a sufficient amount of liquor sanguinis for the performance of an experiment, taking care that the glass into which it was shed and the tube were both near the freezing point. To half a drachm of this plasma I now added one minim and a half of moderately dilute acetic acid, which had the effect of rendering it distinctly acid, as indicated by its communicating a red tint to litmus and restoring the color of turmeric paper which had been reddened by dipping it in the portion of the liquor sanguinis which had not been acidulated. I kept the specimen in ice-cold water till this evening. For a long time it remained perfectly fluid, except the formation of little, soft coagulum at the surface, just as in the unacidulated blood; but a few drops placed in a watch-glass and brought into a warmer atmosphere, coagulated in about the same time as the blood that first flowed from the tube, a soft clot forming in about a quarter of an hour. Even at the expiration of twenty-four hours, a portion of what remained in the cold was still fluid, though faintly acid, but set into a pretty firm clot on being removed into a warmer situation.

[Mr. Lister now proceeded to perform a similar experiment before the Society. A glass containing some liquor sanguinis of the horse's blood, shed twenty-nine hours before, was taken out of the mixture of ice and water in which it stood, and the contents were seen to be still to a considerable extent fluid, although acidulated with acetic acid two hours previously. A portion of the liquid was poured into a watch-glass, and, having been shown to be acid by litmus-paper, was set aside to coagulate, and about a quarter of an hour later was exhibited as a soft clot. Mr. L. then continued.]

From these facts it is obvious that the ammonia theory utterly fails to explain the influence of temperature on coagulation. The circumstance that the liquor sanguinis was acid in this experiment, is clear proof that it contained no free ammonia whatever; yet the acidulated plasma was affected by cold and heat just like ordinary blood. It remained fluid near the freezing point, although the ammonia it originally contained must have entered into combination and lost its reputed power of dissolving the fibrin, and it coagulated when warmed, though the ammonia, fixed by the acid, must have been incapable of evolution. If the author of the ammonia theory were asked to explain why this horse's blood took a quarter of an hour to coagulate, he would no doubt reply that it must have contained a large amount of ammonia, requiring all this time to escape. But we have seen that the acid liquor sanguinis, though possessing no free ammonia at all, took as long to clot. There can, therefore, I think, be little question, but that the slowness of coagulation in the horse, compared with the rapidity of the process in the sheep, and the variations met with in the period in the human species, depend not on the amount of ammonia present in the blood, but on differences in its other constituents, and, speaking generally, that the theory which attributes the coagulation of the blood to the escape of ammonia is fallacious.—(*Ed. Med. Monthly*, December, 1859.)

II.—*Experiments as to the Production of Epilepsy in Guinea-pigs.* By M. BROWN-SÉQUARD.

One of the most interesting facts discovered by M. Brown-Séquard is that relative to the production in mammalia, and particularly in Guinea-pigs, of an epileptiform condition, the result of various injuries inflicted upon the spinal cord. M. Brown-Séquard has often repeated these experiments with the same results, and has shown them to different learned societies. At the last meeting of the Society of Biology, (29th October, 1859,) he announced that for some years past he has had an opportunity of observing a considerable number of young Guinea-pigs born of parents which he had rendered epileptic. But in some of these young animals he has recognized a distinct epileptiform affection, with paroxysms well characterized, yet differing somewhat from that observed in the parents. In the case of the parents, there are not only spontaneous paroxysms, but, in addition, a fit can be brought on at any time by pinching the skin of the face. In those Guinea-pigs which appear to inherit the convulsive affection from their parents, the occurrence of paroxysms cannot in this way be determined; neither are the symptoms of the fit in the young animals quite the same; at the commencement of the attack the animal is seized with trembling, then it falls upon its side and agitates its limbs convulsively.

The Guinea-pigs so affected, which M. Brown-Séquard has in his possession at present, are of two kinds, which are nearly equal in number—one set being the offspring of a mother rendered epileptic by an injury of the spinal cord, the others of a father placed in the same condition.

It may further be observed, that parents rendered epileptic by injury of the spinal column give birth to young ones, none of which may suffer from the affection, or of which some may be free from, while others may suffer from convulsive attacks. M. Brown-Séquard has had under observation a very large number of Guinea-pigs, and although he does not deny the possibility of the fact, he has never seen one of them suffer from a similar spasmodic affection, unless it had previously received an injury of the spinal cord, or were the offspring of a parent rendered epileptic by such proceeding.

These observations of M. Brown-Séquard are of great value; for they add a new point of resemblance to those which already assimilate epilepsy in man to the convulsive affection produced in mammalia by injuries of the spinal cord. This new feature is hereditary transmission. The greater the analogy between the two diseases, the more will the study of epilepsy in animals help the solution of the difficult problems which still surround the history of that disease in man.

M. Brown-Séquard has also pointed out that these facts have another kind of interest. It is well known that traumatic lesions are scarcely ever handed down by hereditary transmission, or at least that this transmission is very rare. Now the above observations might be adduced as examples demonstrative of the possibility of this transmission, but this would be erroneous. In fact, in the offspring of epileptic Guinea-pigs, the spinal cord, examined either with the naked eye or with the microscope, appears perfectly healthy. The local lesion then is not transmitted; it is the general alteration or disposition of the nervous system determined by the lesion, and which is profoundly impressed upon both parents or upon one of them, which is inherited by the offspring. We ought rather, then, to class these examples with cases of hereditary transmission of a diathetic affection produced in an individual, male or female, by some well determined cause.—(*Gazette Hebdomadaire; Edinb. Med. Journal*, December, 1859.)

III.—*On the Cause of Death in Animals subjected to High Temperatures.*

M. Claude Bernard states that warm-blooded vertebrate animals, inclosed in a dry and heated atmosphere, live for a certain time without any appreciable effect being indicated, except accelerated respiration and circulation, death occurring suddenly after the lapse of some time, which varies with the elevation of temperature, the size of the animal, its age, etc. The cause of death in these cases, he believes to be attributable solely to the elevation of temperature of the blood, independently of other circumstances. In the mammifera and birds, the temperature may be raised from four to five degrees C. above the normal condition, the animals infallibly perishing whenever this limit is exceeded, and at the moment of death the heart being found rigid along with the other muscles of the body. The interesting conclusion drawn from his experiments is, that a purely physical condition of the blood—mere increase of its temperature—may be a cause of death. And another point also interesting in connection with this circumstance is, that the amount of increase in temperature sufficient to produce this effect is well marked and invariable, being from four to five degrees C. above the normal standard in warm-blooded animals—that is, between forty five and forty-six degrees C. in mammifers, and fifty-one and fifty-two degrees C. in birds. This M. Bernard explains as arising from the fact that such increase of temperature is incompatible with the exercise of muscular contractility, and consequently leads to arrestment of the heart's action. M. Kühne has shown that in such cases the rigidity is due to the coagulation of a certain matter contained in muscular tissue.—(*Gaz. Medicale*, July, 1859; *Edinb. Med. Journal*, December, 1859.)

IV.—*Presence of Urea in Chyle and Lymph.* By M. AD. WURTZ.

Two years ago M. Wurtz, finding at Alfort a carnivorous bull, in which a fistula of the thoracic duct had been established, it occurred to him to search for urea in the chyle of this animal. To this inquiry he was induced by the consideration that urea ought to originate, not in the capillary blood-vessels, as has been sometimes pretended, but in the intimate structure of all the tissues at every part where materials which have become unfit for life require to be removed by the respiratory combustion. If this be the case, we ought to detect urea not only in the blood, where its presence has been ascertained for a long time past, but also in lymph, and consequently in the chyle of the thoracic duct. It appears, indeed, natural that the lymphatics should contribute their share toward the absorption of the materials proceeding from the metamorphoses of the tissues in which the radicles of these vessels are distributed. The chyle of the bull referred to was accordingly found very rich in urea. M. Wurtz coagulated, at a warm temperature, about 600 grammes of the chyle, evaporated the filtered liquor, treated it with absolute alcohol, evaporated, and then exhausted the alcoholic extract by means of ether; the latter deposited perfectly colorless crystals of urea, which was partially converted into nitrate. This induced M. Wurtz to extend his researches to lymph. Having procured, through the kindness of M. Colin, the lymph of the dog, the cow, the bull, and the horse, he ascertained in them the presence of urea. It further appeared of interest to compare the quantities of urea contained in the blood, chyle, and lymph of the same animal. For this purpose it was necessary to undertake certain quantitative researches, which were accomplished by means of a process which is too long to explain, but which is essentially founded on a combination of the methods which MM. Liebig and Bunsen have proposed for the determination of urea. The following table presents the numerical results obtained in these researches:—

NAME OF ANIMAL.	DIET.	Quality of Urea contained in 1000 Grammes of		
		Blood.	Chyle.	Lymph.
Dog.	Flesh.	0·089	......	0·158
Do.	Do.	......	0·183	......
Cow.	Dried lucern.	0·192	0·192	0·193
Bull.	Lucern and rape-cake.	......	0·189	0·213
Do.	Oil-cake before rumination.	......	......	0·215
Ram.	Ordinary diet—rumination suspended.	Arterial. 0·248	0·280	......
Sheep.	Do. do. do. do.	......	0·071	......
Horse.	Do. do. do. do.	......	......	0·126 0·112

M. Wurtz adds, that having had occasion to analyze a certain quantity of chyle properly so called, collected along the course of the mesenteric chyliferous vessels, after the ganglions, he ascertained there also the presence of a small quantity of urea. This is, no doubt, derived from the changes of tissue which are effected in the walls of the intestine itself.—(*Comptes Rendus de l'Acad. des Sciences*, July, 1859; *Edinburgh Medical Journal*, December, 1859.)

MATERIA MEDICA AND THERAPEUTICS; MEDICAL CHEMISTRY; TOXICOLOGY AND LEGAL MEDICINE.

BY EMIL FISCHER, M.D.

MATERIA MEDICA AND THERAPEUTICS.

I.—*On the Dietetic and Medicinal Properties of Erythroxylon Coca.* By DR. MANTEGAZZA. (Prize Essay. Pamphlet. Milan, 1859.)

The erythroxylon coca, a plant which grows in moist and woody regions on the eastern slopes of the Andes, is highly valued by the inhabitants of Peru, Chili, and Bolivia, not only as a medicine, but also as an article of food; and serves with them as a substitute for the tea, coffee, betel, tobacco, hashish, and opium, used by other nations. Its culture, upon which, since the time of Pizarro's conquest, much care has been bestowed, has recently increased to such a degree, that in the year 1856 the revenue of the Republic of Bolivia, from the sale of this herb, amounted to thirteen millions of francs—a very large sum, if compared with the small number of consumers, (800,000.) According to the account of M. Pöppig and of other well-known travelers, the natives use the dried leaves of the coca-plant either by themselves or in combination with a highly-alkaline substance called llicta, which is prepared from roasted potatoes and the ashes of different other plants; they masticate them like the Malays and the inhabitants of the Indian Archipelago do the calcined leaves of the piper betel. The use of this masticatory, which is considered a great delicacy, is not, however, confined to the rich; on the contrary, it is particularly among the hard-working Indians that the coca enjoys a high reputation as a nutriment and restorative, and its use is considered absolutely essential for the endurance of fatigue and exertion, so that a laborer in making his contract has a view not only to wages, but to the amount of coca to be furnished. The Inca, who lives at a height of seven to fifteen thousand feet above the level of the sea, and whose meagre fare consists principally of maize, some dried meat, and potatoes of bad quality, believes that he can sustain his strength solely by the use of coca; the porter who carries the mail, and accompanies the traveler over the roughest roads at the quick pace of the mule, invigorates and strengthens himself by chewing coca; the Indian who works half naked in the silver and quicksilver mines, looks upon this plant as an ambrosia capable of imparting new life, and of stimulating to new exertions. It is not surprising, under such circumstances, that this article should be very much abused, and that the evil of intemperance in the use of coca, known as coquear, should be quite as prevailing among the natives of those districts as intemperance in the use of tobacco, alcoholic liquors, and opium is among other nations. They often intoxicate themselves for several weeks, hide in the deepest forests in order not to be disturbed in their enjoyment, and not rarely return home to their family suffering from delirium, or decided idiocy.

The child and the feeble old man seize with equal eagerness the leaves of the wonderful herb, and find in it indemnification for all suffering and misery. Be it that the praised efficacy of the plant is merely the effect of fancy or tradition, or that the plant really contains a powerful principle unknown to science, the solution of this mystery is certainly a worthy theme for scientific inquiry, and the investigations of Dr. Mantegazza deserve, therefore, our full attention.

Dr. Mantegazza observed that the chewing of a drachm of the leaves of the coca increased salivation, giving at first a somewhat bitter, and afterward an aromatic taste in the mouth, and a feeling of comfort in the stomach, as after a frugal meal eaten with good appetite. After a second and third dose, a slight burning sensation in the mouth and pharynx, and an increase of thirst were noticed; digestion seemed to be more rapidly performed, and the feces lost their stercoraceous smell, the peculiar odor of the juice of the coca becoming perceptible in them. On using the coca for several days, the author observed on himself as well as on other individuals a circumscribed erythema, an eruption around the eyelids resembling pityriasis; from time to time a not unpleasant pricking and itching of the skin was felt. An infusion of the leaves, taken internally, was found to increase the frequency of the pulse in a considerable degree. In making observations on the frequency of the pulse, the author was very careful to consider all the conditions which might influence it; he found that the temperature of the air being the same, and the liquids being heated to an equal degree, an infusion of coca will increase the action of the heart four times its normal standard, while cocoa, tea, coffee, and warm water only double it. By taking an infusion prepared from three drachms of the leaves, a feverish condition was produced, with increased heat of the skin, palpitation of the heart, seeing of flashes, headache, and vertigo; the pulse rose from seventy to one hundred and thirty-four. A peculiar roaring noise in the ear, a desire to run about at large, and an apparent enlargement of the intellectual horizon indicated that the specific influence upon the brain had commenced. A peculiar, hardly describable feeling of increased strength, agility, and impulse to exertion follows; it is the first symptom of the intoxication, which is, however, quite different from the exaltation produced by alcoholics. While the latter manifests itself by increased but irregular action of the muscles, the individual intoxicated by coca feels but a gradually augmented vigor, and a desire to spend this newly-acquired strength in active labor. After some time the intellectual sphere participates in this general exaltation, while the sensibility seems to be hardly influenced; the effect is thus quite different from that produced by coffee, and resembles in some degree that of opium. Dr. Mantegazza could, in this excited condition, write with ease and regularity. After he had taken four drachms he was seized with the peculiar feeling of being isolated from the external world, and with an irresistible inclination to gymnastic exercise, so that he who in his normal condition carefully avoided the latter, jumped with ease upon the writing-table without breaking the lamp or other objects upon it. After this a state of torpidity came on, accompanied by a feeling of intense comfort—consciousness being all the time perfectly clear—and by an instinctive wish not to move a limb during the whole day, not even a finger. During this sensation sleep sets in attended by odd and rapidly changing dreams; it may last a whole day without leaving a feeling of debility or indisposition of any kind. The author increased the dose to eighteen drachms in one day; his pulse rose in consequence of it to one hundred and thirty-four, and in the moment when the delirium was most intense, he described his feelings to several of his colleagues, who observed him, in the following written words; "*Iddio é ingiusto perche ho fatto l'uomo incapace di poter vivere sempre cocheando,*" (this is the expression for intoxication by coca.) "*Io preferisco una vita di* 10 *anni con coca che un di* 1,000,000 *Secoli senza coca.*" After three hours of sleep Dr. Mantegazza recovered completely from this intoxication, and could immediately follow his daily occupation without the least indisposition—on the contrary, even with unusual facility. He had abstained for forty hours from food of any kind, and the meals then taken were very well digested. From this fact the author finds it explainable, that the Indians employed as carriers of the mail are able to do without food for three to four days, provided they are sufficiently supplied with coca.

From these experiments made repeatedly on himself, and on other individuals, Dr. Mantegazza draws the following conclusions:—

1. The leaves of the coca, chewed or taken in a weak infusion, have a stimulating effect upon the nerves of the stomach, and thereby facilitate digestion very much. 2. In a large dose coca increases the animal heat and augments the frequency of the pulse, and consequently of respiration. 3. In a medium dose, three to four drachms, it excites the nervous system in such a manner that the movements of the muscles are made with greater ease—then it produces a calming effect. 4. Used in a large dose it causes delirium, hallucinations, and finally congestion of the brain.

The most prominent property of coca, which is hardly to be found in any other remedy, consists in the exalting effect it produces, calling out the power of the organism without leaving afterwards any sign of debility. The coca is in this respect one of the most powerful nervines and analeptics. These experiments, as well as the circumstance that the natives have used the coca, from the earliest period, as a remedy in dyspepsia, flatulency, and colic, have induced Dr. Mantegazza, and several of his colleagues in South America and Europe, to employ the leaves of the coca in a variety of cases, partly as masticatory, partly in powder, as infusion, as alcoholico-aqueous extract in the dose of ten to fifteen grains in pills, and as clyster. Dr. Mantegazza has used coca with most excellent results in dyspepsia, gastralgia and enteralgia; he employed it not less frequently in cases of great debility following typhus fever, scurvy, anæmic conditions, etc., and in hysteria and hypochondriasis, even if the latter had increased to weariness of life. The coca might also be employed with great benefit in mental diseases where some physicians prescribe opium. Of its sedative effect in spinal irritation, idiopathic convulsions, nervous erethism, the author has fully convinced himself. He proposes its use in the highest dose in cases of hydrophobia and tetanus. It is a popular opinion that the coca is a reliable aphrodisiac; the author has, however, observed only two cases in which a decided influence upon the sexual system was perceived.

Dr. Mantegazza, finally, recommends this remarkable plant, which could be easily introduced into trade, to the profession for further physiological and therapeutical experiments, and adds the full history of eighteen cases by which the medicinal virtues of the remedy are proved to satisfaction.—(*Oesterreichische Zeitschrift für Praktische Heilkunde*, November 4, 1859.)

II.—*Injection of Sulphate of Atropine on the Pneumogastric Nerve in Asthma.*

By PROFESSOR COURTY.

Professor Courty, of Montpelier, has communicated to the Academy of Sciences of Paris a case wherein he used this novel kind of treatment. The patient was a lady aged fifty-four, who for several years had suffered from very severe fits of asthma. No organic disease of the heart was discovered. Relief was obtained in several fits, which occurred at three and four months interval, by emetics, purgatives, frictions with mercurial and belladonna ointments, opium, valerian, and blisters dressed with morphine, sulphurous waters, etc.

In August of this year, the fit having recurred, M. Courty injected on the internal side of the sterno-mastoid muscle, and on a level with the thyroid body, six drops of a solution of sulphate of atropine (one grain of the salt to one hundred of water,) just on the tract of the sheath which contains the vessels and the pneumogastric nerve. The trocar was introduced to the depth of only three or four lines, for fear of injuring the important vessels of the region. Symptoms of narcotism were observed, but the breathing was freer. The effects of the atropine injection lasted till the next day, when a second and similar injection was made on the right side. The narcotism now persisted during three days, and was combated by purgatives, enemata, tartar emetic, etc.; and on the fourth day, a third injection of seven drops was had recourse to, the canula being introduced a little below the former puncture on the right side, to the depth of eight or nine lines, and moved about to allow the liquid to penetrate. Strong narcotism ensued, but it did not last long, and the fit of asthma was completely controlled.—(*Lancet*, December 24, 1859.)

III.—*A few particulars respecting Woorara.* By M. BONVIER.

M. Bonvier, relying upon a work published by M. Reynoso, gave, at a late meeting of the Surgical Society of Paris, the following particulars respecting the composition of woorara:—

There is true and false woorara; the two are very different, but extremely difficult to distinguish from each other. The true woorara presents, moreover, several species; the substance is therefore not always obtained of the same strength. It comes from different countries, and is extracted from one or several plants which contain one identical principle, the character of which is to cause death when injected into the blood, and to be innocuous when taken into the stomach.

There is, however, one sort of woorara which acts on the gastric mucous membrane of certain animals at given ages, which circumstance would tend to show that much difference exists in some samples of woorara.

It is well known that it is not always prepared from the same plants, nor from plants of the same nature. It has even been shown by M. Chombrook that one kind of woorara is obtained from a great number of plants, almost as great as the number of ingredients entering into diascordium or theriacum.

Among the plants used are some strychneæ, but the rest have not as yet been determined botanically. It is doubtful whether snake poison is mixed with it.

Gunelli is the first who, in 1758, insisted upon the innocuous nature of woorara when taken into the stomach. Lacondamine and Humboldt corroborated his statements. Men can eat with impunity animals killed by woorara. Death by the poison occurs generally by paralysis of the motor nerves.

It is of importance to try the woorara in various manners before administering it to the patient, and to ascertain whether it produces no poisonous effects when introduced into the stomach, and also whether it paralyzes motor nerves without affecting the nerves of sensibility. These precautions are indispensable, for there is a kind of woorara which may kill by gastric absorption.

As to the occasional inefficacy of the poison when inocculated, the experiment of M. Dequise may be mentioned. This surgeon had been given, by a traveler, a quiver full of arrows said to be poisoned by woorara. He found, however, on trying them upon a dog, that they produced no effect. If we consider the woorara as an extract, such a result need create no surprise, as extracts are very liable to change.—(*London Lancet*, New York edit., February, 1860.)

IV.—*Curare in Tetanus.*

The successful termination of two cases of tetanus in which curare was employed by M. Vella and M. Chassaignac, has led to repeated trials and as many failures with this potent substance. We may count in all, now, nine attempts and seven failures. Great interest has been excited by the experimental employment of curare in these cases, for the disease is no less horrible than the remedy is heroic. The discussion at the Medico-Chirurgical Society threw but little light on the subject. It is one of the least promising characteristics of curare, that both in composition and effect it is uncertain and varying. Its chemical nature is not uniform; even its source is variable, and its energies are unequal in various specimens. This constitutes a great posological objection to its use in its present form. If it were possible to distill a yet more deadly poison from this most poisonous drug, and to extract from it *curarina* as its active alkaloid, a fixed intensity might be attained. The therapeutic action of curare is unreliable; it cures rarely, but it can kill promptly. It was thought not to be poisonous when taken into the stomach; subsequent experiments have proved this to be an error. Experiments upon large animals have shown that after the tetanic spasms have ceased, perhaps controlled by the action of the curare, death has followed apparently from paralysis of the organs of respiration. So that the surgeon has the satisfaction of thinking, that if he saves his patient from the disease he may kill him by the remedy. It is a remarkable fact, that wounded and enfeebled animals are only affected by doses of greater than ordinary power. All this leads us to coincide in opinion with M. Velpeau, who condemns, rather than with M. Bernard, who applauds curare. Further experiments are promised. Perhaps it may not be superfluous to suggest that they should be made exclusively in *corpore vili*. What has been done hitherto was justified by the success of Vella and Chassaignac. The subsequent failures suggest the possibility that those were recoveries not cures.—(*London Lancet*, December 10, 1859.)

V.—*Employment of Sambucus Nigra in Dropsy.* By M. REYSSIE.

M. Reyssie, a Belgian practitioner, states that he has long employed the juice of the root of the sambucus as an excellent purgative in dropsy. The bark of the fresh root must be detached by scraping, and the juice is extracted from the scrapings by pressure. The dose is a teaspoonful for an ordinary purgative; but as it does not cause colic or any other inconvenience, the quantity may, in the case of dropsy, be increased to a tablespoonful, which will often induce from twenty to thirty stools. It is a curious fact, that the process of boiling, as in the preparation of a syrup, converts this purgative into a diuretic, which may also be of great use in dropsy.—(*Revue Médic.*, November, 1859, and *Medical Times and Gazette.*)

VI.—*Borax in Diphtheritis.* By M. LERICHE.

M. Leriche, having derived great advantage from the employment of large doses of borax in croup and the various pultaceous affections of the buccal mucous membrane, determined upon giving it in diphtheritis, which was prevailing in his locality. He relates two cases, occurring in adults, wherein its employment was quite satisfactory, in one of which twenty-six drachms were given in four days, and in the other fifty drachms in six days.—(*Ibid.*)

VII.—*Alum Lozenges in Affections of the Throat.* By M. ARGENTI.

M. Argenti, of Venice, proposes as a substitute for alum gargles in affections of the throat, lozenges formed of alum, sugar, and tragacanth, mixed up with diluted laurel-water so as to form lozenges, each containing a suitable dose of alum. The mass is to be well manipulated, and after division, to be put on a sheet of paper and dried by a gentle heat. The lozenges keep well and form an agreeable medicament, which, by aid of the saliva, becomes effectually applied to the parts. A pharmacien of Paris has, for some time past, prepared chlorate of potassa in the same manner.—(*Bull. de Thérap.*, lvii., and *Med. Times*, December, 1859.)

VIII.—*Phosphorus in Paralysis of the Muscles of the Eye.* By M. TAVIGNOT.

M. Tavignot, in localized paralysis of the muscles of the eye, employs with success the following liniment: Walnut-oil, ʒxxv; naphtha, ʒxiij; phosphorus, gr. iij. Frictions are performed in the evening by means of a piece of flannel; this remaining also fastened around the forehead all night.

M. Travignot also administers the following emulsion internally: Oil of almonds, ʒijss; phosphorus, gr. jss; gum-sirup, ʒxxijss; powdered gum, ʒss. To be well shaken when administered, the dose being at first one, and then two and three teaspoonfuls per diem.—(*Ibid*)

IX.—*Collyrium in the Ophthalmia of New-born Infants.* By M. FOUCHER.

M. Foucher employs the following collyrium: Glycerin, ʒviij; nitrate of silver, gr. jss ad gr. iij. The eye is first washed by injecting a very weak solution of chloride of sodium, and then a drop of the above collyrium is deposited on the internal surface of the eyelids by means of a small camel's-hair pencil.—(*Ibid.*)

X.—*Injection of Tincture of Aloes in Gleet.* By M. GAMBERINI.

M. Gamberini, of Bologna, states that in some cases in which other injections have failed, he has derived great advantage from injecting tincture of aloes, fourteen parts diluted with one hundred and twenty parts of water.—(*Ibid.*)

XI.—*On the Treatment of Blennorrhagia by Vinum Colchici and Tincture of Opium.* By DR. EISENMANN, of Würzburg.

Dr. Eisenmann states that he once had occasion to prescribe a combination of vinum colchici and tincture of opium for an officer affected with rheumatic conjunctivitis, and a few days afterwards he was informed that the medicine had cured not only the ophthalmia, but also a blennorrhagia, of which no mention had been previously made. He was surprised at this result; but he resolved to profit by it and to try the same treatment in other cases. He therefore prescribed the medicine for a girl affected with blennorrhagia, and was again surprised that a permanent cure was effected in a few days. Nothing was ordered externally, except frequent applications of tepid water. Subsequently, several cases of blennorrhagia in the male presented themselves, and were treated in the same manner. The dose employed was eighteen to twenty drops, three times a day, of a mixture consisting of twelve grammes of vinum colchici with two grammes of tincture of opium. Milk was ordered as the principal article of food, and absolute rest was enjoined. All the cases of blennorrhagia thus treated were cured, without exception, in a few days, especially when the treatment could be adopted at the commencement of the affection, and none resisted longer than a week.

The observations of Dr. Eisenmann have been confirmed by those of M. Collin, of Dresden, who treated ten cases of blennorrhagia with the greatest success by the mixture of vinum colchici and laudanum. The patients did not recover so rapidly as those treated by Dr. Eisenmann; but the latter physician attributes the difference to the probable inferiority of the drugs employed, and to the fact that the patients did not consult a medical man at a sufficiently early period.—(*Bullet. Génér. de Thérapeutique*, and *Brit. and For. Med.-Chir. Review*, January, 1860.)

XII.—*On Chinese Medicines.* By DR. SCWARTZ.

The Chinese apothecary prepares roots, barks, leaves, fruits, seeds, resins, oils, alkaline earths, metals, crystals, animal bodies and their several parts, especially their secretions and excretions, into infusions, decoctions, powders, pills, extracts, secret preparations, salves, plasters, etc. The mixtures, decoctions of plants, solutions of salts, etc., acquire, by the addition of brown sugar and of mucous and gelatinous substances, a pretty uniform appearance and a similar taste. The soluble substances are often prepared before the patient in an enormous quantity of infusion of tea, and he drinks the medicine and the vehicle in the hot state. The powders are sold in small porcelain and stone jugs, and the stoppers, being unscrewed, have on their inner surface a little bone spoon, with which the medicine is drawn out. The pills, which are uniform and very beautifully rolled, and often gilded, are packed in air-tight, white, transparent wax globes, containing one or two doses. The plasters and salves, usually spread upon red cloth, have a variously-colored paper envelope written over with explanations and praises of the remedy.

The Chinese divide their remedies into two great classes, namely: those which produce fat, and aphrodisiacs. A large paunch is considered a great title to admiration, and the devotion of this extraordinary people to the fair sex is well known.—(*Zeitschrift der Gesellschaft der Aertze zu Wien*, September 19, 1860, and *British and Foreign Med.-Chir. Review.*)

XIII.—*Powder for Chronic Coryza.* By M. MONNERAT.

M. Monnerat has, for some time, observed that subnitrate of bismuth might be employed with advantage as a local application in the acute stage of coryza. When the affection has become chronic, it no longer yields to the bismuth salt employed alone. In such cases, Dr. Sobrier states that he has found it useful to add the iodide of sulphur. His formula consists of four grammes of subnitrate of bismuth, eight grammes of powdered liquorice, and thirty centigrammes of iodide of sulphur. He prescribes ten or twelve pinches, or more, during the day, according to the results obtained.—(*Bullet. Gén. de Thérap.*, and *British and Foreign Med.-Chir. Review*, January, 1860.)

XIV.—*On the Use of Garlic and Lemon-juice in Cases of Membranous Angina.* By DR. CAZIN.

Dr. Cazin, of Boulogne-sur-Mer, gives an instance of membranous angina (diphtheria) successfully treated by garlic. The patient was a young lady, aged fifteen, who presented an extreme degree of swelling of the throat; the whole of the pharynx was covered with a membranous exudation, which was only partially diminished by caustic; the nasal fossæ were affected and poured out an abundant secretion, a symptom always considered unfavorable in the Boulogne epidemic; the pulse was small; the anxiety very great; and the strength was almost exhausted. The citro-alliaceous wash, and draughts of the same kind, were immediately prescribed. From the first day of this treatment there was a marked improvement; the pulse became stronger; the local symptoms were relieved; the membranous exudations were gradually detached; the swelling of the neck was reduced; the throat and nasal fossæ became free, and convalescence was established at the end of five days.—(*Ibid.*)

XV.—*Tannate of Bismuth in Diarrhœa.* By M. CAP.

M. Cap, who has introduced the therapeutic use of glycerin, knowing that tannic acid cures diarrhœa, and that subnitrate and oxide of bismuth have the same effect, thought that it would be advantageous to associate both substances, and has concocted a tannate of bismuth, which he made the subject of a paper at the Academy of Medicine of Paris. Some experiments made by M. Demarquay and M. Trousseau tend to prove that this salt possesses anti-diarrhœic properties. But what sort of diarrhœa does it cure? Because there are very many pathological states of which looseness of the bowels may be a consequence, and the same medicine does not affect them all with equal advantage. In the actual state, the subnitrate of bismuth, though it may be considered as slightly astringent by many therapeutists, especially by M. Pidoux, is far from answering all the indications of tannic acid. They are two agents equally good in their respective spheres of action. By combining them, do we join their advantages or diminish the particular value of each? This is a very legitimate inquiry, and one which M. Bussy has touched on with much good sense. M. Chatin even said, very seriously, that perhaps the merit of the new preparation consisted in its being decomposed in the intestines, and in depositing there separately tannic acid and bismuth. For the present we ask no more, as M. Bouley wishes, than a fair trial, and our remarks are only suggested by a sentiment of general antagonism to the tendencies to polypharmacy which appear to be increasing every day.—(*Gazette Hebdomadaire*, December 2, 1859.)

XVI.—*On the Use of Solanaceæ in Tenesmus.* By M. Ansaloni.

M. Ansaloni reports, in his inaugural dissertation, the favorable results which M. F. Leclerc, of Tours, has obtained from the combined use of belladonna or stramonium, and calomel, in dysentery. Fifty grammes of the extract of belladonna or stramonium are applied in the shape of a large plaster over the pubic region, the two extracts being sometimes used alternately, and one centigramme of calomel is administered for several days, mornings and evenings. The tenesmus and all the other symptoms of dysentery are said to diminish quickly under this treatment. M. Leclerc did not observe any symptoms of poisoning from these applications.—(*Bull. de Thérap.*, lvii. p. 97, 1859.)

XVII.—*Selinum Palustre in Epilepsy.* By Dr. Th. Herpin.

Dr. Th. Herpin communicates the history of four cases of idiopathic, and partly of inherited, epilepsy, in which he effected a complete cure by using, for several months, the powder of selinum palustre. He administered one to four ounces during the week, divided in twenty-four doses, of which three to four were taken daily. Distinct symptoms of the physiological effect of the remedy were not observed.

According to M. Fagod, (*Bouchardat's Annuaire de Thérap.* pour 1859, p. 63,) the root and the herb of the *peucedanum austriacum* are still more efficacious than the selinum palustre. He administered two grammes of the powder three times daily.—(*Bull. de Thérap.*, lvi. p. 403, 1859.)

XVIII.—*Chelidonium Majus in Prurigo.* By M. Grand-Clement.

The author has used the freshly-expressed juice of chelidonium majus with excellent results in prurient eczema, burns produced from nettles, and other affections of the skin accompanied by prurigo. The juice may be mixed with equal parts of glycerin, and can thus be kept for the time when the plant cannot be obtained in the fresh state.—(*Bull. de Thérap.*, lvi. p. 336, 1859.)

XIX.—*On the Oil of Aleurites Tribola.* By M. O'Rorke.

The author praises the purely cathartic property of this oil, which does not produce nausea, as the oils of other euphorbiaceæ often do. It is nearly as mild in its action as the oleum ricini, but is better to take, because it is more fluid, and does not possess either taste or smell. It is amber colored, insoluble in alcohol, drying, and easily saponified with alkalies. The author classifies the oils of the euphorbiaceæ according to the manner in which they act, and the dose required to produce effect, as follows:—1. Oils causing vomiting and purging: croton oil, one to two drops; oil of jatropha carcas, eight to twelve drops; oil of euphorbia lathyris, one to two grammes; oil of anda gomesii, two to three grammes; oil of hura crepitans, five to ten grammes; castor-oil, at least thirty to sixty grammes. 2. Oil causing merely purging: oil of aleurites tribola, thirty to sixty grammes. 3. Oil producing no effect: omphalæa triandra Lindl. 4. Oils the effect of which is unknown: elæococca verrucosa and stillingia sebifera.—(*Bouchardat's Annuaire*, 1859, p. 117.)

XX.—*Iodide of Ammonium in the Treatment of Constitutional Syphilis.* By DR. GAMBERINI.

This remedy has been employed in England, particularly by Dr. Richardson, in the Royal Infirmary of London, in the form of ointment, and, internally, in a dose of one to five grains in scrofula, rheumatism, syphilis—in short, in all the cases where iodide of potassium is generally used. Dr. Gamberini has applied it on a greater scale to the treatment of syphilitic diseases. In the fourteen cases which he subjected to the experiment, his expectation was answered by success.

According to the author, the iodide of ammonium, called also hydriodate of ammonia, is indicated in all cases where iodide of potassium or sodium are employed. The dose of the medicine is two to sixteen grains daily.

Intolerance of it is experienced only in exceptional cases, and manifests itself by a burning sensation in the throat, and a sense of heat in the stomach, which cease rapidly when the use of the medicine is suspended for a day or two.

The external use of this iodide, three grains to an ounce of olive oil, aids in the removal of the nocturnal syphilitic pains of the muscles and joints. M. Gamberini finds the iodide of ammonium preferable to that of potassium or sodium:—

1. Because, while it produces the same therapeutic effect as the other alkaline iodides, it has the advantage of acting more promptly than they. 2. Because it requires large doses of iodide of potassium or sodium to obtain the results which are procured by a very small dose of iodide of ammonium.—(*Union Medicale*, and *Journal de Pharmacie et de Chimie*, November, 1859.)

TOXICOLOGY AND LEGAL MEDICINE.

I.—*A Case of Emphysema of the Lungs in a Still-born Child; with Observations on the Hydrostatic Test.* By PROF. HECKER.

Professor Hecker reports a rare and interesting case in which he found the lungs of a still-born child in an emphysematous condition. The post-mortem examination was made six hours after the birth of the child; not the least sign of putrefaction could be discovered, so that the presence of air in the lungs could not be ascribed to this cause. On opening the thorax the unusual appearance of the lungs attracted immediate attention; instead of having to be searched for at the bottom of the thorax, they filled out that cavity to its greatest extent, and the left lung covered the pericardium in a manner only observed in cases where respiration has been completely established; their color was not reddish brown as that of fœtal lungs, but much lighter, grayish red; their touch was spongy. Both lungs swam completely, and on being put to the bottom of the vessel, readily came to the surface again. They were well filled with blood, so that on cutting into the parenchyma foamy blood escaped; in many places on their surface, but particularly in their margins, the unmistakable signs of emphysema existed; it resembled that produced when in a case of asphyxia the lungs are incautiously inflated by means of an elastic catheter introduced into the windpipe, and the child has perished soon after the operation; large vesicles filled with air alternated with perfectly white spots. The windpipe, down to the smallest bronchi, was empty, and its mucous membrane somewhat reddened. The heart contained much dark, coagulated blood; its vessels, as well as the fœtal communications, were normal. As an isolated putrefaction of the lungs which might have caused a development of air could not be assumed, Professor Hecker ascribed the appearance of the organs to intense respiratory efforts made in the uterus. The liquor amnii had been very early discharged, and the child was thus enabled to breathe for seventeen hours; furthermore, frequent examinations with half the hand had been made during labor, so that air was repeatedly admitted into the uterus. As motive for respiration no other circumstance can be adduced, as the close embrace of the child by the uterus after the discharge of the liquor amnii; another cause which might have given rise to disturbance in the placental circulation could not be detected.

This case is of particular importance in a medico-legal point of view, as the lungs of this child, which had not breathed at all after birth, were capable of swimming. It invalidates the statement of Casper, that there exists not a single well-observed and indubitable case where emphysema was spontaneously developed in the fœtal lungs, and that it was therefore not admissible in medico-legal practice to ascribe the floating of the lungs of new-born infants to this cause.

As counterpart to the case reported above, Professor Hecker communicates another, which is without parallel. In a child which after birth had breathed and screamed loudly, and which died six hours afterwards, the lungs contained no trace of air and sank completely in water. Their color was that of fœtal lungs, and even a most scrutinizing examination could not discover dilated air-cells in them.—(*Virchow's Archiv für Pathologische Anatomie und Physiologie*, xvi. 5, 6, 1859.)

II.—*Fallacy of Sources of Arsenic in Dead Bodies.* By DR. LOIS.

Dr. Lois records the fact of his having made examinations of various specimens of brass. He discovered arsenic in ten specimens of brass, and in some specimens in large quantities. He considers this point as of importance to the medical jurist, inasmuch as various brazen ornaments—such as medals and rosaries, which are laid so frequently in coffins—may, by undergoing change in the presence of the products of decomposition, supply to the remains the poison which a chemist may be instructed to search for in the exhumations of persons who have been thought to die from poison.—(*Oesterreichische Zeitschrift für Prak. Heilkunde*, No. xlix., 1859, and *British and Foreign Med.-Chir. Review.*)

III.—*Death from Chloroform.*

We regret to have to announce another fatal accident during the administration of chloroform for the purpose of producing anæsthesia in a surgical operation. The unhappy patient was Dr. Renwick, of Altoa, a member of our own profession, and but twenty-seven years of age. His disease was in-growing of the great toe-nail, which it was proposed to remedy by evulsion. Dr. Renwick had previously inhaled chloroform without any bad result, hence, perhaps, a false sense of security. The circumstances are thus related:—

A little of the chloroform was poured upon a towel, and he held it to his mouth with his own hands. After awhile, as it did not seem to be taking any effect, he asked for some more, which Dr. Duncanson at first declined to give; but after awhile, finding that no effect was being produced, some more was applied. Observing that he was endeavoring to hasten its effect by strained inspirations, he was asked to breathe naturally, which he did. As it still, however, seemed to be having no effect, another small quantity, at his own request, was applied to the towel, which after a time produced insensibility; and his pulse having been found full and regular the operation, which did not occupy more than a minute or two, was successfully performed. He still remained under the influence of the anæsthetic, but his breathing was regular, and all was considered right. Some cold water was then thrown on his face to arouse him; but this not having the desired effect other measures were resorted to, but with a like unfortunate result; and when, after a few minutes, his breathing became less frequent and more labored, and the appearance of his countenance began to change, and his pulse had become nearly imperceptible, serious alarm was felt. Artificial respiration by the modern method was resorted to, and in this manner breathing was kept up for nearly half an hour; but, melancholy to relate, his spirit had passed away.

We are unwilling to add any observations which can give pain, but it is certainly to be lamented that Snow's inhaler, or some other efficient apparatus was not employed. There is some reason to believe that Dr. Renwick was the subject of cardiac disease.

The *North British Mail* mentions that some time ago a gentleman died under the influence of chloroform at Girvan, while undergoing a similar operation.—(*Lancet*, January 7, 1860.)

IV.—*Poisoning by Cyanide of Potassium.*

Dr. A. Schauenstein, in a communication on poisoning by cyanide of potassium, gives an account of five cases of death by the cyanide. The author, who is a judicial chemist, comments upon the great increase of deaths by suicide through the agency of this poison. Thus in Vienna, from 1851 to 1856 only two poisonings were noted, one of which was doubtful; while from August, 1857, to December, 1858, no less than five cases came under the personal observation of the author. In proportion to this increase of deaths from the cyanide there was a corresponding decrease of deaths from arsenic.

Dr. Schauenstein relates at length three of the cases observed, and in brief the pathology of the two others. In all cases the death seems to have been sudden. In one case, in a young girl, strong tetanic spasms came on directly after the poison had been taken, and death took place in less than an hour. In the second case, occurring in a young man, death took place almost instantly, and with no striking symptoms. The third case was similar; no note of the symptoms in the remaining two cases is given, but Dr. Schauenstein observes, that in several of the cases death took place suddenly, as in apoplexy.

In all the cases a post-mortem examination was conducted, but the appearances observed are considered by the author as offering nothing very characteristic. They were:—

(*a*) The brain contained more or less blood.

(*b*) The blood in the cavities of the heart dark, and of thick consistency.

(*c*) The condition of the stomach varies. In one case the mucous surface presented no particular coloring. In the case where life was prolonged nearly an hour the mucous membrane was slightly red, but offered no other extraordinary appearance. In another case, the death being very sudden, the mucous membrane was of a dark-red color, swollen, and in places covered with numerous bloody points; the contents of the stomach were also of blood-red color; the two remaining cases of the five presented similar appearances in a less degree.

(*d*) The smell of prussic acid in the stomach was very evident in four of the cases. But in one case, on account of the quantity of undigested food in the stomach, the smell remained hidden entirely.

(*e*) The reaction of the contents of the stomach was strongly alkaline, and in every case chemical search proved without doubt the presence of prussic acid; but formic acid was also constantly found, showing that prussic acid in the stomach is transformed into formic acid in many cases.

This latter fact, one of great interest, was originally pointed out by Dr. Schauenstein in the *Wochenbl. der Zeitschrift der K. K. Gesellschaft der Aerzte*, No. 3, 1857.

Dr. Schauenstein, in commenting on the cases, opines that there are no true and distinguishing pathological indications by which the effects of the poison can be safely pronounced.

He further observes that the chemical detection may become equally difficult in instances where, from the body having been dead several days, or having undergone a rapid decomposition, the poison has been decomposed.—(*Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*, No. 1, 1859, and *British and Foreign Med.-Chir. Review.*)

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Bi-Monthly Periscope.

SURGERY.

1. **ON THE GREAT IMPORTANCE OF EARLY DIAGNOSIS AND TREATMENT FOR STONE IN THE BLADDER.** By *Henry Thompson, F.R.C.S.*, Assistant Surgeon to University College Hospital, etc. etc.—There are few among the maladies which afflict humanity that are generally regarded, both by the patient and the surgeon, as fraught with graver import than stone in the bladder. There are no cases that are observed in our hospitals with greater interest, and there are none in which the surgical procedures commonly adopted for their relief involve

greater responsibility on the part of the operator, or are more attractive to the surgical student, from the momentous importance which attaches to them. Grave in the highest degree, however, as by universal consent is the situation of the adult patient with a calculus of considerable size in his bladder, it is a fact worthy to be well and deeply considered, that the existence of such a calculus is, in the great majority of cases, a matter wholly preventible; and that, within certain limits, it must be regarded as a result which, by the exercise of a moderate amount of intelligence and care, may be rendered extremely uncommon. It is so, because the presence of a vesical calculus may almost always be ascertained in an early stage; and because its destruction in that stage is an operation which, with a fair amount of skill, may generally be accomplished with certainty, and with safety to the patient. The first indication—namely, to prevent the formation of a stone of moderate or average size—is insured by an intelligent appreciation of the early signs which it produces; in other words, by a diagnosis of its existence while it is yet quite small. The second indication may generally be fulfilled by crushing it in that stage.

In reference to the subject of counteracting a constitutional tendency to calculous formation, it is not within the limit of this article to enter on the important and fertile theme of medical treatment for its prevention. The question here is only that of early diagnosis, and the treatment which is desirable when the existence of a small stone is verified. Before entering on this, I shall cite briefly a few cases in illustration of the proposition, that under these circumstances the cure of the complaint is safe and simple.

Case 1.—A gentleman, aged thirty-nine, while staying in Malta on his return from India, was recommended to consult me by my friend Mr. Filliter, then in practice there. He had suffered for some months from irritability of the bladder and severe pain after passing urine, with occasional pains in the back and loins. There had been no bleeding observed, and no pain in the glans penis. Instruments had been passed in India; no stricture was discovered. The general health was somewhat impaired. I saw him first on October 16th, 1857, and after investigating his case suspected the presence of stone. It was agreed that he should be sounded in a few days. The urine exhibited on two occasions the presence of blood, although in quantities only to be appreciated by the microscope.

Oct. 24th.—The pelvis being well elevated, I introduced a lithotrite; and, after some little searching, caught a small stone, and effectually crushed it. He was in bed, and remained so during the day.

25th and 26th.—Irritability increased; several fragments came away, which he carefully preserved. From their appearance I was inclined to think there must have been two small calculi.

29th.—Much better. I introduced the lithotrite and found one fragment, which was crushed.

Nov. 1st.—More debris has been passed.

15th.—Perfectly free from all symptoms.

Case 2.—A gentleman, aged thirty-one years, was brought to consult me by my friend Mr. Tweed, of Brook Street, on September 8th, 1857. During the last eighteen months he has suffered severely from urinary derangement; and for fifteen months there have been fistulæ in the perinæum. In France, where he resided during the summer, he was advised to pass all his urine by catheter, in order to give them a chance of closing. He did so, and with the desired effect. They have since, however, reopened, and they exist now. On examination, no stricture nor any disease of the prostate is detected, and there appears no reason to believe that either has existed. I then introduced a sound, and discovered a small calculus.

The next day, September 9th, he paid me a second visit, when I introduced a lithotrite, and crushed at once a small calculus about the size of a bean. He walked home to his house in Brook Street. During the week he passed debris, which were all phosphatic.

Sept. 16th.—I introduced a lithotrite, but could find nothing in the bladder. Symptoms continue, although diminished in intensity.

22d.—Again introduced the lithotrite, found a small piece and crushed it. The debris passed next day.

Oct. 1st.—He left town perfectly free from symptoms; but he passed a few small fragments during the month.

After this he completely recovered, and enjoyed excellent health for more than a year. He had, however, wholly neglected to adopt a system of diet and medicine which we were anxious he should follow perseveringly, as there was reason to believe a constitutional tendency to form phosphatic matter existed, the urine being still always alkaline and phosphatic.

In May, 1859, he reappeared with a calculus of considerable size, and in completely broken health, having suffered severely upwards of a year. After due preparation, I attacked the calculus, and successfully removed it after six applications of the lithotrite. He is now enjoying excellent health. The fact only is mentioned here, as the former part of the case illustrates the subject of this paper.

Case 3.—A gentleman, aged forty-five, was under my care in September, 1858, for stricture of the urethra, which was successfully treated by dilatation in the ordinary manner. Some symptoms of urinary derangement remained after No. 11 sound had been reached, which evidently demanded further investigation. Accordingly, I introduced a lithotrite, and, after some searching, discovered a calculus measuring three-eighths of an inch, according to the scale of the instrument. I crushed it at once, at the patient's rooms.

Next day, October 12th, some fragments of urate of soda passed, and debris followed on succeeding days.

Oct. 19th.—Again crushed two or three fragments. After three days no more debris passed, and the symptoms disappeared. A week afterwards the patient was carefully sounded, but nothing was discovered. He has been perfectly free ever since. The calculus was urate of soda.

Case 4.—H. A., aged thirty-six, and supposed to be the subject of stricture, was sent to me as an out-patient at University College Hospital, February 25th, 1859, with some symptoms, not very urgent, of urinary derangement. I passed an instrument, and found that there was no contraction or other cause for his complaints in the urethra or prostate, and then introduced a sound into the bladder, and soon discovered a small stone. His urine was examined, found healthy, but depositing octahedra of oxalate of lime. He was directed to come at my next visit, March 1st, when I introduced a lithotrite, and in the presence of a number of pupils, without any pain worth mentioning, as he said, and certainly without any expression of it, I crushed at once a calculus about the size of a nut. It is almost unnecessary to say that he had no chloroform. There were no traces of bleeding, and no signs of irritation following. Consequently, after an hour's rest, I desired him to walk slowly, not to ride, to Camden-town, where he lived. Two succeeding crushings followed—one on the 6th, the other on the 9th of March, small debris passing easily after each sitting. The calculus was oxalate of lime. Being perfectly relieved of all his symptoms, he returned to his work at Pickford's, as night-porter, on the 16th of March, being the fifteenth day from his first sitting. He has continued at work ever since. and is perfectly free from all his old symptoms, having called at the hospital during the last month to tell me so.

It is by no means uncommon to find small calculi forming in connection with stricture of the urethra. These may be spontaneously voided after dilatation has been fully completed, or their removal may be accomplished by some mechanical aid from the surgeon. Such occurrences are to be looked for when symptoms persist after the urethral obstruction has been removed. By so doing we may be the means of freeing the patient from the presence of a small concretion, and may probably save him from the grave consequences of serious calculus formation hereafter. I have several such small calculi, which have been removed or expelled from different patients in such circumstances. Of these, the following case is an interesting example:—

A gentleman was recently brought to me with an extremely obstinate stricture, by Mr. Davis, of Hanley, Staffordshire, who stayed with him during the treatment. This consisted, at first, in introducing a very slender silver catheter, which, after some time and trouble, I succeeded in accomplishing; in tying it in, and subsequently replacing it by gum catheters, also tied in, until a tolerable size had been reached. During the progress, a symptom or two occurred which led us to suspect a small calculus, and on one occasion I was satisfied that I had felt it with the gum catheter. Next day I engaged it in the eye of the catheter, and drew it along the urethra as far as to the stricture, beyond which it could not be made to pass. Twenty-four hours more of tying-in dilated this still further, and next day it was again caught, and ultimately came away. It was about the size of a grain of wheat, but longer. Had it not been removed in this early stage, it would undoubtedly have formed the nucleus of a larger calculus, and it is on this account mentioned here as another illustration of the principle laid down.

It appears to me to be desirable also, in the cases of children, to ascertain if possible, at an early period, the existence of calculus. A very small one, having made its descent from the kidney to the bladder, instantly gives rise to symptoms in young subjects; and before it reaches the size of an apple-pip, is often the cause of great distress. Many, doubtless, have seen the operation of lateral lithotomy performed for a concretion even smaller than that. In such a case I prefer a small lithotrite, of which the diameter is between five and six of the ordinary catheter scale, made for me by Mr. Coxeter; it does not require a screw, which simplifies the instrument greatly, the power applied by simple pressure of the hand being amply sufficient for such purposes. With this the stone is seized, and if the scale indicates that its size is very small, it may be crushed at once; if it is larger than a pea, I think it is better to cut, as the expulsion of any but small fragments is attended with much difficulty, while the cutting operation is generally as happy in its results in children as it is hazardous in the adult. After lithotrity in them, the efforts of the bladder are very powerful, while the urethra is so narrow and delicate that, except in the smallest calculi, the removal of fragments may occasion much difficulty, and then, no doubt, lithotomy, especially the median, would be both simpler and safer. The great object, however, should be to detect the calculus when it is, as all are at first, extremely small.

The application of the principle is easy; a case which occurred about a month ago, at University College Hospital, will illustrate this:—

A little boy, aged three years and a half, was brought to me at the out-patient's room on the 30th of November, 1859, with symptoms of urinary derangement, said to be of four months' duration. He had been under medical treatment two months without benefit. Suspecting calculus, he was put under chloroform. I sounded him, and found one which, from the bladder having expelled its contents, appeared to be small. He was desired to come again in a week's time, intending, if it proved to be so, to crush it.

Dec. 9th.—Under chloroform, I introduced the small lithotrite and caught a stone which measured half an inch in diameter. I decided at once to make no attempts to crush it, but to cut him, which I did on the 14th by the median operation, removing a stone the size of a marble. He made a rapid recovery, and left the hospital on the 30th.

Had the stone been half the size, I could easily have reduced it to powder with the small lithotrite—the essential proceeding in the case of children—its flat blades, not fenestrated, being especially adapted for reducing fragments to a state of powder, which passes easily.

It is important to inquire what are the signs which indicate the existence of calculus in that form of small concretion which it must always assume in the early stage, and which in most cases it maintains for a considerable period of time during the early history of its progress. The ordinary and most obvious symptoms of stone are usually regarded as the following: Pain at the close of the act of passing urine; pain in the glans penis; pain increased by sudden movements of the body; sudden stopping of the stream of urine during its flow, and its reappearance after change of position in the body; occasionally blood in the urine after exercise. In addition to these are frequent wants to micturate—a symptom met with more or less in all complaints of the urinary organs. In most cases, also, there is some change in the urine itself, produced by organic or inorganic additions to the normal elements. In elderly subjects with enlarged prostate, the urine sometimes affords more marked evidence than the subjective symptoms, which may be masked by the condition of the prostate, or confounded with the symptoms arising therefrom. Among the numerous patients who complain chiefly of irritability of bladder, and some pains associated with micturition, we may rely upon it that in nineteen out of twenty there is some material and recognizable cause. There is either inflammation of some portion of the track from the kidney to the urethra inclusive, the locality of which may be determined; or there is obstruction, the precise nature of which can be ascertained; or there is some adventitious growth or deposit, or some organic change taking place in some part, and presenting symptoms or imparting characters to the urine which are almost unmistakable. Now, in the early stage of vesical calculus, its discovery is due at first to the observation of the negative rather than of the positive signs. Frequent and painful micturition being complained of, the absence of inflammation of the urethra or bladder, or, at all events, its non-existence as a primary state, is ascertained by reference to the present condition and to the history; while catheterism determines the absence of obstruction; and urinary examination, in connection with the general symptoms, indicates whether or no organic disease exists. Having thus excluded all these causes, the occurrence of marked pain at the end of micturition, the occasional appearance of a little blood in the urine, although only microscopic, with the persistence of some crystalline deposit and of some pus, however slight in amount, in the urine, should awaken a strong suspicion of the existence of a calculus. A careful examination, by the microscope, of the urine passed on several successive days should generally be made, always in cases of obscurity, since the indications just alluded to, and which are so obtained, are often extremely valuable. If, in addition to these signs, there is any distinct history of recent pain, more or less acute, in the course of either ureter, and lasting for a few hours, the suspicion will be greatly strengthened. Whether this last-named sign have been present or not, a patient in the circumstances above described ought to be sounded. In the operation of searching for the calculus itself, it is necessary to remember that a small stone is less easy to detect than one of ordinary size, and that it is as difficult sometimes to miss the one as to find the other. In order to sound efficiently, but especially in a case where there is reason to believe that the stone is small, a sound of appropriate form is necessary. It is barely possible to search a bladder thoroughly with a sound curved like the ordinary catheter, inasmuch as every part of the cavity cannot be explored by such an instrument. The sound should have a very short and well-curved extremity, which can be rotated in the bladder without difficulty, and without causing pain to the patient, so that the floor of the bladder behind the prostate can be searched as freely as any other part by turning the short beak downward. It is manifestly impossible thus to explore if the curved portion of the sound be long, and the defects of such an instrument are still more obvious when the prostate is materially enlarged. Next, the sound should be hollow, so that water can be injected through it into the bladder, or flow outward from it, in order that the surgeon may possess the advantage of sounding while the bladder is in various degrees of distention; indeed, in every intermediate condition between full and empty. The patient should lie on his back, with the pelvis elevated from four to six inches above the shoulders. If nothing is found, supposing the search to have commenced with about ten ounces of fluid in the bladder, about half may be allowed to run off as the searching continues. At this point, if nothing is discovered, the patient may be carefully raised into the upright position, and the bladder then be permitted to empty itself through the sound, which, being gently moved, will scarcely fail to detect a very small calculus, if such a one be present, since it is almost certain to be brought down against the sound with the last portion of the outflowing current.

Perhaps the best situation for the eye of a hollow sound is on the convex part of the curve, and not at its extremity, which, being thus left solid and heavy, affords more certain indication to the operator than if hollowed, and consequently feeling light in the hand. The material advantage gained by employing the hollow sound is, that the introduction of a single instrument only, suffices for the whole process of emptying, injecting, and searching the bladder. The lithotrite itself answers very well as a sound; and, if it possesses a small channel through it so as to admit the flow of fluid, is equal to the instrument just described, with the single drawback of its being less rounded in its surface and outline, and thus a little less easily borne by the patient. On the other hand, it enables the operator to crush a small calculus at the same time, without further manipulation, if thought desirable.

It is my firm belief that the early diagnosis of calculus might, in the great majority of cases, be made without difficulty, if suspicious symptoms were more sedulously observed when they first arise, and the necessary examination made when simple means had failed to dispel them. For it may be safely affirmed that there are very few patients indeed, who will not seek professional advice against the troubles which arise during the early stages of the formation, these being quite sufficient to awaken their anxious attention. Granting the truth of this proposition, and holding the certainty and safety of lithotrity for small calculi as a universally admitted fact, there inevitably results the following deduction, the importance of which it is impossible to over-estimate, namely:—

That stone in the bladder—one of the direst of human maladies, and in the removal of which one of the most severe and fatal operations is still most commonly performed—may, through the exercise of ordinary intelligence and skill, be deprived of nearly all its severity and of its danger to life.

I cannot doubt that the time is not very far distant when the gravity of the affection will in this manner be greatly diminished. It will be so in proportion to the increased vigilance which is exercised in practice. Much as our art accomplishes in the cure of established disease, its value is most apparent, and its applications are really fraught with the highest benefits to humanity, when exercised mainly by way of prevention. Its greatest achievements, and most honorable, are those by which evil has been averted from the frame, not those by which such evil is removed or palliated. My object now is to press upon the attention of my professional brethren the convictions which have been recorded here, and the grounds of which I have endeavored, briefly and imperfectly, to show both by reason and by practical illustration. If they are correct, the study of calculous diseases offers another example to those already existing of the extreme value, in relation to therapeutics, of all that tends to perfect the art of diagnosis—a principle the truth of which has been demonstrated by almost every improvement which has marked the progress of medicine and surgery during the present century.—(*London Lancet*, January 21, 1860.)

2. ANTIPHLOGISTIC POWERS OF MORPHIA, ILLUSTRATED BY ITS USE IN THE TREATMENT OF ACUTE INFLAMMATIONS OF THE SCLEROTIC AND IRIS. By *J. Zachariah Laurence, F.R.C.S., M.B., Lond.*, Surgeon to the South London Ophthalmic Hospital.—Perhaps the most (therapeutically) important distinction in the ophthalmiæ is, whether the conjunctiva or the sclerotic is the part principally affected. It would be foreign to my purpose to enter into the diagnosis of these

two classes of inflammations. The most practical difference is in the nature of the pain. While in the conjunctival inflammation the pain is generally less severe, ("pricking or scalding,") more superficial, and referred by the patient to the eyelids; on the other hand, the sclerotic inflammation is characterized by a generally very severe, (occasionally agonizing,) often nocturnal pain, (rendering the patient quite sleepless,) of a deep-seated throbbing or dead character, and referred to the eyeball, eyebrow, temple, and head generally. Now the acknowledged and accepted treatment of the day of these cases of sclerotitis and iritis consists in a selection or combination of bleeding, leeching, cupping, blistering, and mercurialization.

I was first induced to try the effect of the morphia, (in Case 1,) rather with a view of relieving the excessive pain, than from the hope of any further result; but finding, to my great surprise, that not only was the pain relieved, but the disease itself on the decline, I continued the morphia then with a view of really testing its antiphlogistic powers; and, meeting with success, have administered the same remedy in other cases with good results. Some of these cases I now submit as the evidence of the antiphlogistic powers of morphia; and, the plan of treatment being different from that generally employed, have given them with a detail I should, under other circumstances, not have entered into.

Case 1.—*Acute Sclerotitis; Morphia Treatment; Decline of the Disease in about four-and-twenty hours.*—S. S., a middle-aged woman, was admitted to the South London Ophthalmic Hospital, on November 3, 1858. The sclerotic was intensely injected, the conjunctiva slightly; the "sclerotic zone" well marked. She suffered such severe shooting pain in the eyeball, eyebrow, and infra-orbital region, as to render her quite sleepless.

November 3.—℞ Morph. hydrochlor. gr. ¼, every third hour. Warm water fomentations to the eye.

6th.—Took the morphia regularly up to four P.M. yesterday, when she took the last powder. Toward the evening of the fourth the pain in the eye began to abate; now she feels but a slight aching in the eye on exposure to light. The sclerotic vascularity has considerably diminished. She now recovered rapidly under the treatment of a slight conjunctivitis.

Case 2.—*Acute Sclerotitis; Morphia Treatment; Decline of the Disease in less than twelve hours.*—H. B., an elderly, but strong man, admitted to the St. Marylebone Dispensary, July 27, 1859. Sclerotitis of a week's duration characterized by intense vascularity of the sclerotic, and a "sharp, burning" pain in the eyeball and forehead, with nocturnal exacerbation, rendering the patient sleepless. Suffering simultaneously from gout in the great toe. Has done nothing but foment the eye.

℞ Morph. hydrochlor. gr. ½, 3tia. quaque horâ. Warm water fomentations to the eye.

July 29.—Has taken the medicine as prescribed. Slept well, but not heavily, on the night of the twenty-seventh after midnight, when the hitherto severe pain in the eye left him. To-day, the vascularity of the tunics greatly diminished; the pain in the eyeball, brow, and forehead gone, leaving but a trifling pain at the side of the nose. Bowels have not acted since the twenty-seventh. To leave off the morphia and take an ounce of castor-oil.

August 1.—Perfectly recovered.

Case 3.—*Double Acute Iritis; Failure of Leeching and Mercurialization; Morphia Treatment; Decline of Disease within four-and-twenty hours.*—E. P. was admitted to the South London Ophthalmic Hospital, on August 27, 1859; during my absence from town, and up to September 10, when I first saw her, had been treated by leeching, blistering, mercurialization and belladonna lotion for the previous three weeks.

September 10.—Iris discolored; sclerotic deeply injected; pupils dilated (from the belladonna lotion;) humors muddy; complains of pains in the eyeballs and eyebrows, "like a rheumatic pain, of an overwhelming weight, of the light causing her great agony;" eyesight very dim.

℞ Morph. hydrochlor. gr. $\frac{1}{2}$, 4ta. quaque horâ. Warm water fomentations to the eyes.

14th.—Took the first dose of medicine on the night of the tenth. The pain abated, and, as she expressly stated, "very suddenly." She slept that night. On the following morning she could face the light much better. The medicine has made her feel very sick and drowsy. To-day she complains only of a little "pricking and shooting pain." Her eyes are still dim and weak, but the sclerotic injection is nearly gone.

28th.—Since the last report, has been taking the morphia in diminished doses, and subsequently a grain of quinine three times a day. Her eyes are to all appearances perfectly sound; nothing remains of her disease but a slight haziness of vision.

Case 4.—*Acute Sclerotitis; Morphia Treatment; Decline of the Disease in about seven hours.*—B. L., aged forty, a working engineer, was admitted to the South London Ophthalmic Hospital, on September 24, 1859. Five or six years ago he was struck on the now inflamed eye by something from a forge-fire. He recovered from the accident in about a month. The eye has been inflamed, as it is now, for the last three weeks. It presents all the usual signs of acute sclerotitis; great sclerotic vascularity, (the "sclerotic zone" well marked,) excessive lachrymation, great pain (especially at night, rendering him sleepless) referred to the eyeball, eyebrow, and temple, and compared by the patient to the sensation of a "weight hanging from his forehead, and pulling him down;" eyesight "foggy;" over inner part of the cornea a rust-colored opake speck, with a minute depression in its centre, evidenced the accident of five years back, but the most careful examination failed to detect any foreign body in the anterior chamber.

September 24.—℞ Morph. hydrochlor. gr. $\frac{1}{2}$, every third hour, watching its effects; warm water fomentations to the eye. Took the first dose about four P.M., felt sleepy about six P.M.; second dose about seven P.M.; the pain began then gradually to "die away;" the third dose about eleven P.M.; slept for three or four hours. The following day (Sunday) at noon but trifling pain was felt, and he slept soundly that night.

28th.—The case was reduced to one of slight conjunctivitis; all pain has left him; found his bowels confined from the medicine. To leave off the morphia, and take a purgative dose of calomel and colocynth, which completed the cure.

Case 5.—*Traumatic Acute Sclerotitis; Morphia Treatment; Decline of the Disease in less than four-and-twenty hours.*—C. H., aged forty-six, was on a Thursday evening engaged in Messrs. M.'s factory, pouring some molten iron into a sand mould, when a quantity of hot sand flew into his eye. He came to the South London Ophthalmic Hospital, on Saturday, October 1, 1859. With the exception of two minute particles of sand, which I removed with a spill of blotting-paper, all the sand had been removed by one of his fellow-workmen. I found him suffering from intense sclerotitis, marked by universal and high vascularity of the sclerotic and conjunctiva, great lachrymation and excessive pain in the eyeball, compared by the patient to the "prodding of a knife," and rendering him quite sleepless.

October 1.—℞ Morph. hydrochlor. gr. ½, every third hour. Warm water fomentations.

Took the first dose of morphia about three P.M., and then regularly every three hours. It made him feel very drowsy, and that (Saturday) night he slept soundly. The violent pain was entirely gone on the following morning.

3d.—The case reduced to one of a simple conjunctivitis, and treated by a purgative dose of calomel, which completed the cure.

Case 6.—Acute Sclerotitis; Failure of the Morphia Treatment; Recovery under Depletion and Mercurialization.—E. S., aged forty-eight, applied at the South London Ophthalmic Hospital, on January 12, 1859. About twelve months before she lost the sight of the now inflamed eye by a cork from a soda-water bottle. The consequent inflammation of the eye lasted for only a few days; but three or four months afterwards her eyesight began gradually to fade, and she can now only distinguish the outlines (but not the colors) of objects with the injured eye. About three weeks before applying to the hospital she caught cold in the eye, which now presents the following signs: Intense sclerotic and conjunctival vascularity ("sclerotic zone" well marked); pupil central of medium size, angular, destitute of contractility. Pain intense, referred to the right eyeball and right side of the head, proceeding from the vertex downward to the level of the ala nasi.

January 12.—℞ Morph. hydrochl. gr. ⅓, every fourth hour. Warm water fomentations to the eye.

15th.—Pain and other symptoms unabated. She recovered slowly under leeching, blistering, and mercurialization.

Whether in this case the deeply-diseased state of the eye, or the (too) small doses of the morphia, influenced the failure of the drug, must remain a matter of conjecture.

These cases I consider to establish an important practical fact, viz., that morphia is *per se* a powerful antiphlogistic,* capable of curing these acute inflammations of the eye, in which, up to the present time, blood-letting, blistering, and mercurialization have been considered necessary. As regards loss of blood, all will be agreed on the propriety of dispensing with it, where it can be done so with safety. Again, how constant an occurrence is it to see paroxysms of acute inflammations for a time apparently relieved by blood-letting, till the subsequent vascular reaction sets in, but to recur again and again, and require as many repetitions of this same objectionable remedy! I would further ask surgeons and physicians, What evidence have they that in the combination of mercury and opium, given with a view of "putting the patient under the influence of mercury," as it is termed, it is not really the *opium* which does the good, and that the mercury and its action on the mouth may not be, to say the least, useless?* And I would finally ask the physicians of this country to test the powers of morphia in the treatment of the acute inflammations of the internal organs of the body.

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* In all the cases mentioned, the patients had been using warm fomentations to the eyes before applying at the hospital.

If we seek for an explanation of the above very remarkable action of morphia in reducing abnormal fullness of the vessels of the sclerotic, we may find it in the relations of pain to vascular congestion. Pain has generally been regarded rather as the effect than as the cause of the repletion of blood-vessels; but it is quite an open question whether or not in certain classes of cases the order of things may not be inverted. Such may be the case in the inflammations of the sclerotic we have just been discussing. That, on the other hand, vascular congestion may react as a cause of pain, is not improbable. The theory I would submit is that the action of morphia in these cases depends on its known power of reducing nervous irritability, which may be viewed as the primary cause of the inflammation. In these deep-seated inflammations of the eye this view is very much borne out by the seat of the pain; this will be found to follow strictly the branches of the fifth nerve; indeed, the precision with which the patients themselves localize the pain is very remarkable; while we have further evidence of the nervous nature of these cases in the intense watering of the eye, (dependent on irritation of the lachrymal branch of the fifth nerve.) In this way I conceive the irritation is propagated to the vessels through the intervention of the connections existing between the fifth and sympathetic nerves.—(*Medical Times and Gazette*, December 31, 1859.)

3. ON SYPHILITIC TUMORS OF THE TONGUE. By *M. Lagneau, Jr.* (Gazette Hebdomadaire, 1859, Nos. 32, 33, 35.)—In this paper M. Lagneau brings together the particulars of ten cases, some having been already recorded, and others having fallen under his own observation.

Etiology.—The affection has only been met with at an advanced stage of constitutional syphilis, some of the subjects being, nevertheless, otherwise in excellent health. Excepting one instance, all the cases occurred in males.

Pathological Anatomy.—The tumors are sometimes seated deep into the muscular substance of the organ, and at others very superficially; and their development commences most frequently at the base of the organ. The tumor may be single or exist in considerable numbers. Sometimes several isolated indurations in the process of growth become confounded together so as to constitute a single tumor. The size has varied from that of shot to that of a small walnut, and in a case occurring to M. Cloquet the tongue became so enlarged as to descend three inches below the chin. In general the form of the tumor is more or less rounded, and its color is gray or white, although this is not always the case. Of an almost cartilaginous hardness at first, as the tumor approaches the surface it presents more of a pasty or gummy consistence, and, on bursting, gives rise to ulceration. As these tumors do not prove fatal, their texture cannot well be judged of, but it is to be supposed that they do not materially differ in this respect from syphilitic tumors developed in the muscles and cellular tissue of other parts of the body. The excavated ulceration which follows the opening of the tumor is of variable depths, according to the position of the latter. It is of a more or less elongated form, with irregularly sharp cut edges, and presents a grayish bottom, covered with pseudomembranous exudation, and bleeding easily from contact of the teeth. Induration at first surrounds the base, but this gradually somewhat diminishes. When several of these ulcers become joined together a considerable portion of the substance of the tongue is destroyed, and a serious deformity remains even after cicatrization. When, however, the syphilitic tumors become arrested by suitable treatment while still in the condition of nodosities, they gradually lose their consistency, and leave behind them no signs of their former existence.

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* Again, mercury is presumed to have an "absorbing power" over plastic effusions, such as occur in acute iritis: here, too, it is a fair question whether the absorption of the inflammatory exudations is not rather a natural process, supervening on the cessation of the inflammation, (such as we daily see in the absorption of divided cataracts after the operation by solution, as soon as the inflammatory consequences of the operation have passed off,) than any, if I may be allowed the expression, "mercurial" process.

Symptoms.—Many of these have been already alluded to in detailing the appearances furnished by the tumors; of course, there is difficulty of speech and deglutition proportionate to the size of the tumors. The pain is usually but slight, or even does not exist, especially in the early stage. Although the occurrence is quite exceptional, the submaxillary glands sometimes undergo enlargement on the breaking out of ulceration. When there is great tumefaction and projection of the tongue, salivation is one of the consequences. The evolution of this affection of the tongue is eminently chronic, its commencement being often referred to a period of many months distant.

Diagnosis.—This is of the highest importance, for the affection has often been confounded with other lesions. Among these *cancer* is pre-eminent. Several patients, cured of frightful-looking syphilitic ulcers, have been regarded as instances of recovery from cancer of the organ, while the tongue has been amputated for reputed cancerous ulcerations which would have yielded to iodide of potassium. In distinguishing between the two affections we are greatly aided by the fact of the pre-existence or coexistence of other syphilitic symptoms, a fact which prevailed in nine out of ten cases here given. Cancer of the tongue is attended with lancinating pain, and its preferential seat is not the base but the point or edges of the tongue. It is usually single, while syphilitic tumors are mostly multiple. Cancer usually first shows itself as a hard, circumscribed, warty tumor, which is not the case with the syphilitic tumor, which assumes a more regularly roundish form. Consecutive glandular swellings are rare in the syphilitic affection; but cancer, when somewhat advanced, implicates the surrounding glandular tissue. The tendency of the syphilitic tumor is toward the surface, where it softens and ulcerates, while cancer involves the deep-seated as well as the superficial tissues. The ulceration from cancer is generally single and more or less fungous, while the ulcers following syphilitic tumors are generally multiple and excavated, with sharp, irregularly cut edges, and a grayish, diphtheritic, partially-gangrenous bottom. The early induration of their base gradually disappears as the plastic matter becomes softened and excreted at the surface of the ulcer. Cancerous engorgement is persistent, for, in proportion as the morbid product is destroyed by ulceration, the disease spreads to deeper and deeper parts. Both forms of ulcer bleed from contact with the teeth; but the syphilitic is less fungous and less vascular than the cancerous. (2) *Tubercle* going on to ulceration is not very uncommon in the tongue in phthisical or scrofulous subjects; and in such cases error may arise without much difficulty. These steatomatous tumors have usually less consistence than have the syphilitic. (3) *Callosities, hypertrophy of the epithelium, tylosis linguæ.* These terms indicate a condition described by MM. Ullmann and Buzenet as occurring on the tongue of inveterate smokers. The mucous membrane becomes adherent, and beneath it is deposited a plastic exudation, presenting a firm, whitish, insensible surface. This layer of plastic deposit and epithelial cells cracks and becomes detached in fragments, bringing into view a painful, irregular ulceration of grayish aspect. But, although this appearance somewhat resembles that caused by those syphilitic tumors which induce a whitish projection at the surface of the tongue, these latter are not found at the surface, but in the substance of the tongue. The ulcers which follow the detachment of these plastic deposits do not at all resemble the deep excavations which follow the syphilitic tumors. (4) *Hypertrophy* of the tongue; and (5) *Glossitis* are easily distinguished from syphilitic tumor. (6) *Primary chancre of the tongue* is usually easily distinguishable by the history of the case.

Prognosis.—This, in the case of suitable treatment, being had recourse to, is usually favorable; but, if this be too long delayed, the destructive ulceration which ensues will be followed by more or less permanent deformity.

Treatment.—Various forms of mercurial preparations have been used by different authors with success; and although the author believes that iodine is useful in some cases in which mercury has been already employed in vain, he does not agree with M. Ricord in the propriety of proscribing the latter, or even, as a general rule, in substituting iodide of potassium for it.—(*British and Foreign Medico-Chirurgical Review*, Jan. 1860.)

OBSTETRICS.

1. ON FŒTAL AUSCULTATION. Letter from *Dr. Francis Adams* to the Editor of the *Medical Times and Gazette.*—Sir: From the statements which have been made under the present head in this journal, it would appear, contrary to my expectation, that there is such a discrepancy in the views of the stethoscopists regarding the sounds detected by auscultation of the heart and of the uterus, that I consider it necessary to determine, if possible with precision, what may be assumed as the generally admitted facts of the case, before attempting to settle those points about which a considerable difference of opinion prevails, and which I am anxious to establish.

The following, then, would appear to be acknowledged and regarded by all the authorities, from Laennec downwards, as the ratio which subsists between the pulse and the sounds of the heart, both in adults and in new-born children.

Every arterial pulse at the wrist has synchronous with it an impulse in the cardiac region, and every impulse is accompanied by two sounds: first, by a loud, and more prolonged sound; and, secondly, by a feeble, and more abrupt sound. Pulse and impulse are recognized by the touch; the sounds by the sense of hearing. Many people, indeed, find some difficulty in detecting the second sound, even in the adult state, but these are dismissed with a scornful notice by such distinguished stethoscopists as the late writer on fœtal auscultation in this journal. We may assume it, then, as being generally conceded that in the adult state the pulse and impulse range from about 70 to 80, and the cardiac sounds from 70 to 80 double sounds, or from 140 to 160 single sounds. At birth, the highest authorities agree that the pulse is about 140, and consequently the cardiac sounds must be about 280; that is to say, 140 strong and 140 feeble sounds. These are generally denominated the "tic-tac" sounds by the authorities; the "tic" meaning the strong and the "tac" the feeble sounds. In utero no one pretends that generally either the one or the other is less frequent than at birth; and consequently we may venture to assume as admitted that at this period the "tic-tac" sounds, taken together, should range from 260 to 280 per minute.* Whenever, then, an auscultator in the abdominal regions detects regularly such a low number of single sounds as 160, there can be no question that these are to be referred not to the fœtal, but to the maternal heart; at all events, most certainly not to the former. Whether, indeed, the fact be absolutely and unquestionably as stated by the celebrated auscultator in the far North, we shall not pretend to affirm or deny, but this point settled, and the inference is irresistible that these 160 single sounds cannot have proceeded from the fœtal heart. No, no; this is the standard of the adult, and not of the fœtal heart. And, by-the-way, it may be that this is the true explanation of the mistake committed by the learned auscultator in the case of spurious pregnancy related by Dr. Simpson, who may have fallen into the same mistake as our Northern auscultator in confounding the average standard with that of the fœtal heart. We think, then, the question is, in so far, set at rest, that granted 160 single sounds can be regularly detected in auscultation of the pelvic region, no one has any right to infer therefrom the existence of a living fœtal heart in that quarter.

But, it will here be asked, what if about 140 double or tic-tac sounds can be detected per minute in the pelvic region, is not this an absolute and unmistakable mark that a living fœtal heart must exist within? Dr. R. Fergusson, in his Preparatory Essay to Dr. Gouch's work "On the Most Important Diseases of Women," lately published by the New Sydenham Society, answers this question in the negative. In the first place, "it is often not found;" and even when discovered it is no certain mark of pregnancy, as the following case proves beyond controversy: A poor girl was violated: her belly enlarged; and she was supposed to be pregnant; and, no wonder, seeing the tic-tac sound could be heard 140 times in a minute. Yet it turned out to be a serous collection, as was ascertained by tapping with a trocar. It appears, therefore, that whether the allotted number of sounds be regarded as single or double, in neither case are they any certain mark of pregnancy.

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* The writer referred to above (*Medical Times and Gazette*, November 5) makes the singular averment that "Dr. Adams is the first who affirmed that from 130 to 160 double beats could be distinguished." Now this I do not affirm, but I do say that the authorities, from the first writer on it perhaps in this country (see Cyclop. of Med., p. 242) down to the latest authority, Dr. Fergusson, all speak of the fœtal sounds being double, and of excessive frequency; and the latter mentions "the tic-tac sound repeated 140 times per minute." Surely 140 brace of grouse mean 280 birds all the world over! When this writer talks of 60 to 80 maternal pulsations in the minute, surely he who contends so strongly for the distinctness of the second sound of the heart, does not mean to say that this is the amount of the adult sounds. He does not mean surely that there are 30 loud and 30 feeble sounds, but 60 loud and 60 feeble ones. Altogether, however, he evidently confounds beats with sounds. But sounds are double the number of beats.

We must now say a few words respecting what is usually called the *placental soufflet;* and here again we must come to an understanding regarding the general facts involved in this question.

Bellows sounds, or *bruits de soufflet,* (sounds which have not inaptly been compared to those of a locomotive just about to start on a journey,) are generally admitted to be produced more especially by the pressure of the stethoscope on enlarged vessels, whether arterial or venous, but also not unfrequently, as I myself can attest, by muscular contraction, and the passage of air through an internal tube, such as the trachea in the neck, or the intestinal canal in the abdomen. Altogether these soufflets are admitted to be very fallacious guides in diagnosis; for what physician is there of experience who has not known very many cases in which vascular tumors have been thus diagnosed as aneurisms, and *vice versa?* Few can have had many opportunities of seeing abdominal tumors, and not met with cases in which they were accompanied with strong *bruits de soufflet.* (See Cyclopedia of Medicine, vol. iii. pp. 484, 485.) Dr. Meigs thus expresses the result of his experience in this matter: "As to the value of the *bruit de soufflet* in the diagnosis of pregnancy, it has been found that the earlier opinions were erroneous; and I believe there are few well-informed physicians to be now met with who give it even the smallest portion of their confidence in the unfacile discriminations that they are sometimes charged to make. It is not to be doubted that the sound is produced by the rush of blood in vessels, and, in my opinion, sustained by a very long practice in obstetric auscultation, it depends upon the motion of the blood in the iliacs and hypogastrics. I have certainly heard the same sound after delivery as before the child was born, and I have heard it as dependent upon pressure by tumors within the abdomen. Hence I have not the least confidence in it as an object in obstetric auscultation." (*Obstetrics,* p. 240.) Dr. Fergusson, in the work quoted above, expresses himself to the same effect in the strongest terms. He has known it produced by pelvic tumors in cases of putrid fœtuses and morbid placenta; hence he holds that "it affords no diagnostic mark as to fœtal or placentary development."

After all this, what can we think of the Northern auscultator who, on the contrary, affirms that "scarcely any one at the present day entertains a doubt that in almost every case of pregnancy after the seventh month, both the pulsations of the fœtal heart and the *placental soufflet* can, with a moderate degree of care, be readily distinguished," and "that there is no possibility of a mistake being committed here;" for that "the sound of the fœtal heart can by no stretch of imagination, no flight of fancy, no exercise of faith, no intensity of impression, be confounded with any other: it is a sound *per se*"?

I am confident the writer of these sentences stands alone, at the present day, in holding the strong opinions here announced; and I shall only beg leave to add that I trust he does not reduce them to practice himself, nor encourage the youth of the profession to do so. For most assuredly if the young practitioners of the obstetric art regard it as a rule that whenever, in attending cases of protracted labor, they cannot with moderate care detect a soufflet and 160 sounds in the pelvic regions, they are quite warranted in dealing with the child as a dead body, and in applying the perforator to its head; they will soon become familiar with sights which will fill their hearts with sorrow and cover their faces with shame; sights which I forbear to describe, although I have both heard and read of such cases; but I feel grateful to Providence that albeit I am denounced as the holder of heterodox doctrines in obstetrical stethoscopy, I never was condemned to witness any such in my own practice.

With regard, then, to fœtal auscultation, I think the following points have been satisfactorily determined:—

1. That the cases of spurious pregnancy related by Dr. Simpson, in which eminent auscultators fancied they could detect the double sounds of a fœtal heart when there were none present, and the various other instances of a similar character related above, all go to prove that this process of diagnosis is not at all to be relied upon as a test of pregnancy.

2. That the leading facts of the case are so differently stated by different individuals as to put it beyond doubt that these statements must have been much modified by previous impressions and modes of faith.

3. That since soufflets are often heard in the case of pelvic tumors, after delivery, and when the fœtus is putrid and the placenta morbid, they cannot be regarded as placental, nor as indicative of pregnancy at all.

4. That the sounds detected in the uterine region, unless double, cannot have been cardiac, nor, unless double the arterial pulse of the fœtus, can they have been connected with its heart, consequently that such an amount as from 140 to 160 single sounds cannot be referred to the fœtal heart.

5. That one of the authorities for fœtal auscultation admits candidly that even this number of 140 double or tic-tac sounds is often not present in pregnancy; and, on the other hand, that it is sometimes present when there is no fœtus in utero.

6. That the fœtal heart is so surrounded by a large mass of dense maternal structures and blood-vessels, and by the solid limbs and organs of the child, that it seems next to incredible that any sound emitted by it could ever reach the ear of an auscultator.

7. That the whole system of fœtal auscultation originated soon after the dawn of general auscultation, when men's minds were excited by the love of novelty, and warped by many erroneous impressions and mistaken modes of thinking, and has since been mainly upheld by authority.—(*Med. Times & Gaz.*, Dec. 17, 1859.)

2. A POLYPUS-SHAPED DESMOID OF NEARLY THREE POUNDS WEIGHT EXTIRPATED BY BREAKING UP. By *Dr. Gustav Simon*, etc.—This case of desmoid

polypus is interesting, both on account of the structure of the growth and the operation for its removal. A lady, aged fifty-one, had been known to carry a polypoid growth for four years, but had refused operative measures. The pelvis seemed almost filled by the tumor; and six months before Dr. Simon's treatment an attempt had been made to seize the tumor with the obstetric forceps, in order to bring it within reach of other instruments. This attempt was abandoned. It seemed to have had the effect, by compression, of lessening the bulk of the tumor, and the voiding the bladder and rectum became easier for a time. The patient was much emaciated, and confined to bed. The tumor quite filled the pelvis; no os uteri could be found. By palpation between the vagina and the abdomen an immense tumor was made out, having its apex at the vulva and basis at the umbilicus. Near the umbilicus was a smaller tumor the size of a hen's egg, which was made out satisfactorily to be the uterus. It being considered impossible to bring down the huge tumor with the obstetric forceps or with Museux's instrument, the lower part of it was held with the latter instrument, and funnel-shaped pieces were cut out, so that its circumference was lessened; then the obstetric forceps was applied, and by compression with this the polypus was drawn partly out of the vagina. On account of the weakness of the patient, this was done without chloroform. After two hours' painful operation, four large pieces were cut out of the apex of the tumor by the scissors, with inconsiderable bleeding. But soon the hemorrhage increased so as to bring on syncope. The hand was forced up to the vagina, and a stalk being felt, the tumor was dragged down by the hand so as to bring the stalk externally. This was transfixed by a needle carrying a double thread, tied on both sides, and cut through. The patient had recovered in twelve days. The following is a summary of the description of the tumor: The investing substance was of uterine tissue which had been distended by the growth within it of desmoid balls projecting out of the cervical cavity, and becoming enormously hypertrophied. These desmoid structures were of all sizes, from that of a pin's head to that of a child's head. On the surface of the mucous membrane covering the tumors, especially on the part where the broad basis was, were numerous vesicles filled with gray transparent mucous contents, and between these were equally numerous funnel-shaped openings, of various sizes, leading into roundish, smooth-walled, empty sacs. These open sacs and closed vesicles, which lay in the deepest strata of the mucous membrane, and not seldom communicated, were nothing else than the enlarged, perhaps multiplied, mucous crypts, and the enlarged, partly burst and partly unburst, ovula Nabothi of the normal cervical mucous membrane. The second constitutive part of the tumor consisted in desmoid balls of various sizes. They were mostly round, of very thick, concentrically-disposed fibrous layers, strongly resisting section by the knife. They were surrounded by the investing uterine substance, and loosely united by connective tissue.—(*Monatsschr. für Geburtsk.*, July, 1859; *Brit. and For. Med.-Chirur. Rev.*, January, 1860.)

Editors' Table.

The Gold-headed Cane. II.—Under a belief that the reminiscences of the gold-headed cane, introduced in our last number, were quite acceptable to our readers, we proceed to draw from the same source, for their further gratifications at the present time. The narrator had, it will be remembered, told of its having been transferred from Radcliffe to Mead; from a physician more remarkable for good sense and sagacity than for literary attainments to one who was a scholar and a man of refined tastes. Dr. Mead was universally allowed to be a man of great erudition, to be *artis medicæ decus, vitæ revera nobilis*, and who went beyond the nobles of the land in his love for, and patronage of, the "fine arts, polite learning, and a knowledge of antiquity." The gold-headed cane, though it had changed masters, had the satisfaction of returning to the old Home, for Mead not only succeeded Radcliffe in the greater part of his business, but removed to the residence which he had formerly occupied in Bloomsbury Square, at that time the fashionable part of London.

About six months after the death of Radcliffe, the cane was present at a consultation between Sir Hans Sloane, Dr. Cheyne, and Mead, in the case of the celebrated Bishop Burnet, author of the "History of his own Time," and the "Sacred Theory of the Earth." Up to the date of his attack, (of pleurisy,) which proved fatal, the bishop, then seventy-two years of age, had enjoyed good health. As a contribution to personal hygiene, we shall repeat what the patient said to Dr. Mead on this occasion: "In summer I have been in the habit of rising at five in the morning, in the winter at six; and I have always officiated, myself, at prayer, though my chaplains may have been present. I then took my tea in company with my children, and read the Scriptures with them. I have generally spent six or eight hours in my study. The rest of the day has been passed by me in taking exercise, making friendly visits or cheerful meals. But now, to use an expression of my late gracious master, King William, whom I knew well for sixteen years, I feel '*que je tire vers ma fin,*'"—(that I draw near my end.) The presage was soon fulfilled, and the bishop died on the 17th of March, 1714–15.

Making no pretension to a biography of Mead, we shall merely refer to his contributions to medical science and practice. On the application of Mr. Secretary Craggs, in 1719, Mead published a discourse on the Plague, and the most effectual method to prevent the spreading of this disease, which had proved so fatal that year at Marseilles. This brochure, as it could now be called, went though no less than seven editions in a twelvemonth, (1720.) It was distinguished by an erudition which one would not expect to meet in a volume or pamphlet of the present day. He strenuously advocated a system of quarantine, which was adopted by the government. Referring to the fierce opposition which he encountered for this recommendation, he makes use of the following language, which must, just now, be considered apposite to the discussions going on in the United States on the subject, especially in reference to yellow fever: "But suppose for a moment," said he to a friend, "that the laws of quarantine were useless, and that the fears entertained of the nature of the plague were without foundation, how can the commerce of this country be benefited by the abolition of these regulations here, unless the rest of civilized Europe adopt the same measure, and agree as a sort of general congress, to remove all restraints from their trade with the Levant?"

Two or three years after this the attention of the master of the gold-headed cane was called to another question of still greater importance than the one just mentioned. This was no less than the mitigation of that loathsome disease, the small-pox. Lady Mary Wortley Montague, whose husband had been English ambassador at Constantinople, had witnessed the practice of inoculating for the small-pox in the East, and determined to have the operation performed on her own children. This was accordingly done on her son, before leaving the Turkish capital, and on her daughter, after her return home, in 1722, with entire success. The profession was, however, slow to adopt the practice, and further trials, in the interests of royalty, were made on condemned felons. Six of these were inoculated, and five of them took the disease in a benignant form; the sixth was not affected. They were pardoned, as a condition for their consenting to the experiment. At Dr. Mead's suggestion, the Chinese method was practiced on a young girl, eighteen years of age, by introducing a tent moistened with matter taken from the pustules and then introduced into her nostrils. The girl in this case, as in that of the five others, perfectly recovered, after having contracted the disease. Encouraged by these results, the practice of inoculation made a bound from the prison to the palace, and one of the children of the Princess of Wales was inoculated with success. Dr. Mead expresses his surprise that the contagious nature of small-pox, which is so obvious, should not have been noticed by every writer on the subject; and yet Sydenham, discerning as he was, does not take the slightest notice of it. To Mead's treatise on small-pox and measles, which appeared twenty years later, its author added a translation of Rhaze's commentary on the disease, "a copy of which he had obtained from Leyden, through the assistance of his friend and fellow-student Boerhaave, with whom my master kept up a constant correspondence."

Notice is taken of the method first used by Mead of exerting pressure on the abdomen, after the operation of tapping, in order to prevent the fainting and even death itself which, without this precaution, have sometimes ensued. Gold-headed Cane *loquitur:* "I was present when this method was first tried in the hospital, and afterwards frequently saw it used in the case of Dame Mary Page, wife of Sir Gregory Page, Bart., who was afflicted with this disease, and died March 4th, 1728, in the fifty-sixth year of her age. In sixty-seven months she was tapped sixty-six times, and had two hundred and forty gallons of water taken away, without ever once fearing the operation."

Reverting to some particulars in Mead's life of a personal nature, we find that Garth, author of the poem of

"The Dispensary," Arbuthnot, eminent as a physician, a scholar, and a wit, and Freind, author of the "History of Medicine," were among his chief associates. These names are the more noticeable, for they were those of zealous Tories, whereas the holder of the gold-headed cane was a staunch Whig. This fact gives the more point to the warm regard manifested by Mead for Freind, on the occasion of the latter, who was a member of Parliament, and had been complicated in a conspiracy to restore the Stuarts to the throne, being committed to the Tower. Freind's practice fell chiefly into the hands of Mead; and to him was the captive indebted for his liberation from prison. When Sir Robert Walpole, the minister of the day, sent to consult Mead on account of some indisposition, the physician availed himself of the occasion to plead the cause of his friend. He urged the patriotic feelings and loyalty of Freind, his public services, his meriting well of science, his being "besides a man of excellent parts, a thorough scholar and one whom all acknowledged to be very able in his profession,"—and, finally, wound up by an *argumentum ad hominem*, in refusing to prescribe for the minister unless the prisoner was set at liberty. The appeal was successful, and Freind was admitted to bail; his sureties being, Dr. Mead, Dr. Hulse, Dr. Levet, and Dr. Hale. We let the cane tell the following incident, which has generally been regarded as historical, although we know that some have doubts of its having really occurred:—

"The evening after this event there was a numerous assembly at our house in Great Ormond Street, attracted by the hope of meeting Freind, and congratulating him on his liberation from the Tower. He came, and every one was delighted to see him once more at large. Besides the number of acquaintances and friends who were there, when it is observed that no foreigners of any learning, taste, or even curiosity, ever arrived in England without being introduced to my master, (as it would have been a reproach to have returned without seeing a scholar and physician who was in correspondence with all the literati of Europe,) it may easily be imagined that on so remarkable an occasion our *conversazione* was a crowded one. When the party broke up, and Freind and Arbuthnot were about to take their leave together, as they lived in the same part of the town—the former in Albemarle Street, and the latter in Cork Street, Burlington Gardens—Dr. Mead begged Freind to step with him for a moment into his own private study, which was a small room adjoining the library. There he presented him with a sum of five thousand guineas, which he had received from Freind's patients, whom he had visited during his imprisonment. On returning to the great room he wished them both good night, and jocosely said to Arbuthnot, (who happened to hold the office of Censor of the College this year,) 'Now I commit our friend here to your magisterial care and guidance; see that he does not again get into trouble, and on the least appearance of irregularity report him to the President, Sir Hans Sloane. I look to you, Arbuthnot, to preserve harmony among us.' "*

A good idea may be formed of the riches in literature and art that abounded in Dr. Mead's house, and at the same time, of the munificent style in which he received his company, by the following talk of our imaginary guide. We wish that the description would serve as an incentive for those of our contemporaries who have the means, if there be such in our great cities, to imitate him in this particular, even though they may fall short of him in learning.

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* Arbuthnot was a dilettante in music, and occasionally composed sacred pieces.

"These meetings, of which Dr. Mead was very fond, took place at stated periods, and the visitors assembled in the library, a spacious room about sixty feet long, of the richness of which an idea may be formed by referring to the catalogue of the sale of its contents, which took place after his death. The books, amounting to ten thousand volumes, were sold in twenty-eight days. The sale of prints and drawings occupied fourteen evenings, and the coins and medals were disposed of in eight days. But at the time of which I speak, all these literary treasures were collected under one roof; and the assemblage of marble statues, of Greek philosophers, Roman emperors, bronzes, gems, intaglios, Etruscan vases, and other rare specimens of antiquity, was most choice and valuable. Ranged along one side of the room stood the busts of the great English poets—Shakspeare, Milton, and Pope: they were of the size of life, of white marble, and by the hand of Scheemakers. The corner in which I was usually placed was between the statue of Hygeia* and a cabinet of iron which once belonged to Queen Elizabeth. This cabinet was full of valuable coins, among which was a medal of the Protector, (Cromwell,) which Mead frequently exhibited as a curiosity to his visitors; it had Oliver's head in profile, with this legend: 'The Lord of Hosts, the word at Dunbar, Sept. 1650;' on the reverse, the parliament sitting.

"Placed in this favorite spot, I often heard," continues the gold-headed narrator, "very interesting discourse. On one occasion, particularly, the conversation turned on the condition and rank of physicians in society—a topic elicited by the attack which had been lately made by Dr. Conyers Middleton on the dignity of medicine, in a dissertation written by him concerning the state of physic in old Rome. Dr. Mead began by asking, 'What class of men have deserved better of the public than physicians? How much, for instance, does not this country owe to Linacre, the founder of our College?'" The sketch drawn of this eminent man, and of his successor, Dr. Caius might well find a place in our table-talk. So also the remarks on Garth, by whose exertions the remains of Dryden had a suitable interment. One of the persons present at this conversation, and who was leaning on the arm of Arbuthnot, is thus described: "He was protuberant before and behind, and used humorously to compare himself to a spider; and was so feeble that he could not, as I have heard, dress or undress himself, and was always wrapped up in fur and flannel, besides wearing a bodice of stiff canvas. In this description every one will recognize the form of Pope. He took no part in the conversation, but his fine, sharp, piercing eye, directed as it was alternately to the different speakers, indicated that he felt no common concern in the subject."

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* At the sale of Mead's library and works of art, this statue, three feet and a half high, was bought for £56 sterling, ($250,) by Dr. Anthony Askew. On the same occasion a magnificent statue of Antinous, of white marble and of the size of nature, was purchased by the Marquis of Rockingham for 241 pounds sterling, ($1205.) The celebrated bronze head of Homer was sold for 136 pounds ($680) to Lord Exeter.

The inspection of a bust of Harvey, which Mead had recently caused to be executed from an original picture in his possession, gave rise to some reminiscences introduced by Freind, of the discoverer of the circulation of the blood. Dr. George Ent gives a pleasing account of a visit which he paid to his friend Harvey, who was then in his seventy-first year, living in retirement at Richmond. In a garden belonging to the College of Physicians, Harvey built at his own expense an elegantly-furnished Convocation Room, and a Museum filled with choice books and surgical instruments. On the second day of February, 1653, he invited the members to a splendid entertainment, and on that occasion presented the College with a deed of gift of the building he had erected in their garden. Worthy of mention here, is a little episode in the narrative of the olden time. In March, 1823, the Earl of Winchelsea presented to the College some anatomical preparations which belonged to his ancestor, Dr. Harvey. These consist of six tables or boards upon which are spread the different nerves and blood-vessels carefully dissected out of the body—in one of them the semi-lunar valves of the aorta are distinctly to be seen. These preparations were most probably by Harvey himself, and he may have learned the art of making them in Italy, for he studied in Padua, in 1602. The original manuscripts of a course of lectures on anatomy and surgery, which he gave before the College of Physicians in 1616, are preserved in the British Museum.

It was my lot, says the gold-headed cane, often to be in company with the eminent surgeon, Cheselden, for the public seemed universally to have adopted the sentiment of the popular poet of the day:—

> "I'll try what Mead and Cheselden advise."
> POPE.

The particular case in which these two eminences were called upon for joint professional action, with that of Mr. Conduitt, surgeon in ordinary, was of Sir Isaac Newton, who was said to be suffering from stone in the bladder: "No hopes were given of his recovery; and yet to look upon the great philosopher, though now in his eighty-fifth year, he had the bloom and color of a young man, had never worn spectacles, nor lost more than one tooth during his whole life. Besides being blessed with a very happy and vigorous constitution, he had been very temperate in his diet, though we did not learn that he had ever observed any regimen. He was of middle stature, and at this time plump in his person; had a very lively and piercing eye, a comely and gracious aspect, and a fine head of hair, as white as silver, without any baldness, and when his peruke was off he had truly a most venerable appearance."

On the accession of George the Second, Dr. Mead was made one of the royal physicians, and was for many years engaged in the constant hurry of an extensive and successful practice. Few princes, it was acknowledged, have shown themselves equally generous and liberal in promoting science and encouraging learning. He threw open his gallery in the morning for the benefit of students in painting and sculpture; and was in the habit of even lending the best of his pictures to artists to copy. If any literary work was going on he contributed all in his power to its perfection. Guy, the wealthy citizen, was persuaded by Dr. Mead to lay out his immense fortune in building that hospital in the Borough, which bears his name. With respect to science, no discovery was made in which he did not take a lively interest.

The hospitality of Mead was unbounded, and consequently his housekeeping expenses were very great; for, not content with the reception of his own friends and acquaintances, he kept also a very handsome second table, to which persons of inferior quality were invited. The consequence was, that notwithstanding the considerable gains derived from his profession, (for several years he made between 5000 and 6000, and during one year, 7000 pounds sterling,*) he did not die so rich as might have been expected. The total amount left at his death, including the receipts of the sale of his library, pictures, statues, etc., (which were between 15,000 and 16,000 pounds,) was about 50,000 pounds, ($200,000;) but this sum was materially diminished by the payment of his debts. It is somewhat remarkable that many of his books sold for much more than they cost him. His pictures, also, were chosen with so much judgment, that they produced upwards of $17,000; or about $3000 to $3500 more than he gave for them.

With respect to his manner of living when not engaged at home, he generally spent his evenings at Batson's Coffee-house; and in the forenoons, apothecaries used to come to him at Tom's, near Covent Garden, with written or verbal reports of cases, for which he prescribed without seeing the patient, and took half-guinea (about $2.50) fees.

Mead's last work was entitled "Medical Precepts and Cautions," (*Moneta Medica,*)† in which he freely communicates all the discoveries that the long practice and experience of nearly half a century had opened to him concerning diseases and their cures; and concludes with many salutary directions for preserving the body and mind perfect and entire to a good old age. This he attained himself, and preserved, till within three years of his death, his intellectual powers in a state of perfection. Then he became very corpulent, and his faculties were visibly impaired. Dr. Mead died on the 16th of February, 1754, in his eighty-first year. He was twice married: by his first wife he had ten children, of whom three survived him; his daughters were married to Dr. Wilmot and Dr. Nicholls, and a son, Richard, was heir to his father's and uncle's fortunes. By his second wife he had no issue.

After the death of Dr. Mead, it was said of him, that, of all the physicians who had ever flourished, he gained the most, spent the most, and enjoyed the highest fame during his lifetime, not only in his own, but in foreign countries.

FLORENCE NIGHTINGALE.—Florence Nightingale needs but few prefatory remarks. Reared in luxury, and fitted both by natural and acquired endowments to adorn the most elevated social position, her immolation of self and voluntary resignation of those domestic ties which ordinarily constitute the charm of a woman's life, more especially commend her to the world's reverence and praise. Long before the disastrous Crimean war was projected, her gentle ministerings were known throughout Great Britain, Germany, and Egypt, where she attended the sick Arabs. She daily frequented the hospitals and reformatory institutions of London, Edinburgh, and the continent, and, in 1851, went to the great Lutheran hospital at Kaiserwerth, on the Rhine, where she spent months in constant attendance on the patients, and perfected herself in the art of nursing. On her return to England, she undertook the management of the Sanatorium for Governesses, and by her efficient aid, both monetary and personal, saved the institution from the neglect and ruin into which it was fast sinking. Immediately afterwards came accounts of the sufferings in the East, and of the additional hardships which the wounded soldiers were enduring from want of proper care and attention. The English, with their characteristic promptness, soon raised the sum of £15,000, which was expended in articles of food and clothing for the relief of their army. It was soon felt, however, that the sufferings were chiefly to be ascribed to the absence of proper nursing, and, at the instigation of the Hon. Sydney Herbert, Miss Nightingale was selected as the person best calculated to undertake the control of the British establishment for wounded soldiers and sailors in the Crimea. Many would have shrunk from such a proposal, knowing the terrible dangers and toils to which it would necessarily subject them; but Florence Nightingale gloried in the prospect; it was a more extended field for her labors, and one in which her Christian virtues of philanthropy, benevolence, and charity could be exercised to the utmost.

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* In our currency their amounts would be respectively, 25,000, 30,000, and 35,000 dollars.

† It was preceded by a treatise *De Morbis Biblicis*, or, as called in the English translation executed under the eye of the author, "*Medica Sacra*, or a Commentary on the most remarkable diseases mentioned in the Holy Scriptures."

In October, 1854, accompanied by the Rev. Mr. Bricebridge and his wife, and thirty-seven nurses, she left England on her holy and ennobling mission, reaching Scutari in November, just before the wounded of Balaklava were brought into the hospitals. There it was that she proved herself to be eminently capacitated for the arduous duty she had undertaken. Throughout the wards, where confusion had reigned before her arrival, the most perfect order and regulation were maintained; and it was not only while actively engaged for the relief of the sick, that her presence was acknowledged by all to be a blessing. There was many a word of encouragement and smile of sympathy which revived the despondent hearts of the poor sufferers more than any personal aid could possibly have done. In proof of this there is a passage from one of the soldier's letters which, though written in a homely style, is replete with poetry which must appeal to every human heart. In speaking of the pleasure it was to see Miss Nightingale pass, he says: "She would speak to one and to another, and nod and smile to a many more, but she couldn't do it to all, you know; we lay there by hundreds; but we could kiss her shadow as it fell, and lay our heads on the pillows again, content."

After her return from the Crimea, $600,000 were placed at her disposal as a testimony of a nation's gratitude; this sum she appropriated to the erection and management of a Training-School for Nurses, thus endeavoring to perpetuate her own example in others.

Very little has been heard of her for

two years, but during this time she has not been idle; in her retirement she has written a hand-book, called "Notes on Nursing; what it is, and what it is not,"—which was issued a month ago in London. This volume is the result of her own experience in her philanthropic career, and by its publication she bestows as great services as she rendered in the hospitals at Scutari.

PRIVATE ASYLUM FOR THE INSANE.—We are glad to have it in our power to announce the opening of a private asylum for the insane, which combines the advantages of a rural and healthy location and easy access, with suitable construction and internal arrangements for the reception and treatment of this class of the afflicted. The conception and execution of the plan thus carried out, are due to the energy of the gentleman, Dr. Robert A. Given, who is both proprietor and medical superintendent of this new establishment.

Of his fitness for the responsible post which Dr. Given has now assumed, we can speak with some confidence, based on a knowledge of his having been the medical assistant of Dr. Kirkbride in the Pennsylvania Hospital for the Insane, during a period of three years, and of his having, as physician to the Eastern Penitentiary for a longer time, exerted a most salutary influence as well in the treatment of cases of insanity occurring in that institution, as in the still more important matter of prevention of the disease by wisely devised measures of hygiene. Dr. Given brings with him to his present undertaking not only experience, but also abundant zeal, firmness, and integrity of purpose, and a deep conviction of the responsibility which he incurs in the discharge of the difficult and delicate duties which are henceforth to devolve on him.

Clifton Hall is the name by which the new establishment is designated. The grounds which it overlooks, and on which it stands, are twenty-five acres in extent, of which five are woodland: they are abundantly supplied with excellent water. Clifton Hall is situated in Delaware County, Pennsylvania, about seven miles west of Philadelphia, and is easily reached both by turnpike and railroad, thus uniting the indispensable requisites of location in the country with facility for its inmates occasionally visiting a large city. "It is designed," as we learn from a circular now on our desk, "to accommodate about fifty patients, twenty-five of each sex, and no efforts have been spared to render it both cheerful and healthy. To the eye, the external appearance is decidedly pleasing, while the arrangements for heating, ventilation, and the admission of light, will compare favorably with those of larger establishments. The opportunities for classification are believed to be ample, and the cubic space allotted to each inmate has been declared by competent observers to be even more than either health or convenience demands."

We learn, also, that provision has been made for that form of insanity called *mania a potu*, which has been denied admission in some other establishments. "For this form of disease special arrangements exist, and, after recovery, those who may wish to remain for a time, in the hope of overcoming their unfortunate propensity, are at liberty to do so, provided they VOLUNTARILY submit to the established rules of the institution."

It is argued in favor of a private asylum, like the present one, that fifty patients living as a family, and being more frequently under the eye of the superintendent, will be more likely to show, unveiled, "the exact nature and starting-point of their morbid mental manifestations, be better protected against the not unfrequent indiscretions of attendants, and have every rational desire more fully gratified than would be possible in hospitals containing five or six times that number." Dr. Given has successfully obviated the objections which used to be brought against private lunatic asylums in England, viz., the want of a responsible supervisory body, in his having obtained a Board of Supervision composed, at present, of Drs. Bell, Carson, and Dickson, the Rev. Wm. R. Breed, and John Jenkins, D.D., Judge Strong, Hon'ble Wm. A. Porter, Herman Cope, Francis Tete, Morton McMichael, Chas. Kelly, and Oborn Levis, Esquires. Further strong collateral support in favor of the soundness of the working details in Clifton Hall is furnished in the fact, that Dr. Given has secured the aid of Dr. Charles Evans, so well and favorably known as Physician to the Frankford Asylum for the Insane, as consulting physician. "Besides, whenever it is so desired by his friends, the patient may still retain the services of his ordinary medical adviser."

CURIOSITIES OF FRENCH MEDICAL LITERATURE.—Under this caption a critic in a late number of the London *Medical Times and Gazette,* asks the question,—

"Why cannot a Frenchman copy an Englishman's name correctly? There is something really strange in the fact: that our French friends insist now, as they have always insisted, in rarely giving us our true cognomens. Can any of your readers give an explanation of this psychological obliquity? We rarely ever find an Englishman miswrite the name of a Frenchman, and for this reason we think the queer figures French authors make us cut hardly fair. A page of a journal—*L'Union Médicale*—lies before me, from which I learn that M. Léfort, Aide d'Anatomie of the Faculty of Medicine of Paris, places upon the Bureau of the Society of Chirurgery of Paris, a voluminous memoir on resection of the knee. He contents himself, however, with reading a *résumé* of the same —a piece of modesty which, by the way, might occasionally be usefully practiced in some of our own learned societies. Running my eye down this page of *résumé,* I find the names of my blessed departed countrymen thus handled: *William* Wright took off five and a half inches (in 1738) from the femur of a boy called Herd Ramsden. In 1739 Benjamin Gooch, assistant to Dr. *Amyas,* of Norwich, did something of a like kind. In 1760 *Waisman de Shispton* (*Angleterre*) cut away some of a humerus. In 1762 *Pelkin,* Surgeon of *Nortorich en Cheslire,* first commenced resecting manœuvres on the knee; and then Bent, of Newcastle; and *Owed,* in 1778. renewed attempts on the shoulder. *Owed,* however, in 1773, was the first honorable resector of the wrist. And in 1782 Moreau did a great thing without knowing it had already been done in England, three years before the translation of *Parck's* memoir appeared in France. Lastly turns up M. Jones de *Gersey.* A little further on I hesitate, for I may be in error, if I surmise that M. *Euchsen* means Mr. Erichsen. I think, sir, you will agree with me that there is something queer in the typographical bumps of men, who slaughter our countrymen's names in such a fashion."

Frenchmen, particularly medical Frenchmen, are proverbially miserable English scholars, and hence it is not surprising that they should be stupidly ignorant of everything relative to English and American medicine and surgery. Almost the only modern Frenchman who forms an exception to this rule is Velpeau, whose Treatise on Operative Surgery displays great familiarity with everything that has been achieved in this particular department in this country and Great Britain. In 1805, a Frenchman, J. B. La Roche, alluding to the seton, as proposed by Dr. Philip Syng Physick, for the treatment of ununited fracture, supposing the family name of the father of American surgery to be that of his profession, ascribed the honor of the invention to Monsieur Philip S., physician. That such an error should have been committed early in this present century, is not at all surprising, especially when we remember the peculiarity of Physick's name; but that such mistakes in orthography as those pointed out in our foreign contemporary should occur in 1859, at a time when there is so much intercourse between France and England, is, to say the least, not only extremely ludicrous, but very unpardonable. Frenchmen are, however, wonderfully conceited, and their creed evidently has long been that there is but one God and one France.

DEATH AND CAMPHENE.—We copy the following from the New York Observer, a religious paper, and invite to it the serious attention of the reader:—

Before the recent terrible calamity at Lawrence, Mass., which received its most horrid feature from the introduction of a camphene lamp, we had seen the following statistics by Mr. Merriam, of Brooklyn. They show the number of deaths from camphene and other similar burning fluids, as mentioned in the papers since July 22, 1850:—

	Killed.	Injured.
1850	2	10
1851	23	49
1852	15	31
1853	28	50
1854	55	70
1855	40	46
1856	65	93
1857	59	75
1858	54	93
1859	83	106

Whole number since July 22, 1850, 424; injured, 623.

Since the first instant, a fire occurred in Division Street, in this city, occasioned by the bursting of an over-heated lamp of burning-fluid, by which six persons, most of them young children, were burned to death.

But the most horrible occurrence that we have ever seen recorded in connection with the use of these dangerous fluids, is that which followed the falling of the Pemberton Mill at Lawrence. All accounts agree in describing the fire which ensued, by which so many who seemed on the point of being rescued, some of them wounded but others unharmed, were literally roasted to death, as horrible beyond description. The following, taken from one of the latest reports, is said to be the true explanation of its occurrence:—

"*How the fire originated.*—It would seem that the fatal burning of the wrecked building was another '*Camphene Accident.*' The history of the disaster by the fire, now accepted at Lawrence, is, that a man zealous to relieve suffering and save life, endeavored to pass some hot coffee through an aperture into a space where several men and women, unharmed by the crash, were yet imprisoned between the wall and the beams. To find his way safely in for his pitcher, he first introduced his lantern. It met with some hard resisting substance and was knocked from his hand. It broke as it fell, and the camphene with which it was charged of course ignited while it was scattered. The loose cotton took fire immediately, and the terrible consequences are now history."

Is it not time for our legislatures to interpose, to protect by law human life and property, if these destructive fluids cannot be banished from domestic use in any other way? No possible care can prevent frequent disasters, because they occur in unforeseen ways, and not merely by what is called carelessness. The very use of these fluids indicates a degree of carelessness of which it would seem no prudent person could be guilty. They doubtless have their place, but not in the domestic circle, where they are liable at any moment to scatter death.

SOUTHERN MEDICAL STUDENTS AND SOUTHERN MEDICAL SCHOOLS.—In the January number of the Review we gave a brief account of the secession of some of the Southern medical students from the schools of this city; but we do not intend now to return to the subject, convinced that time will place the whole matter in its proper light.

In connection, however, with the topic, we deem it necessary to refer to an article, by Dr. Bowling, in the February number of the Nashville Journal of Medicine and Surgery, denying, on behalf of his colleagues, any participation, in the way of sympathy, with the late stampede among the Southern students of this city. The notice which we gave of that occurrence was solely of a historical character; and for the facts which guided us on the occasion, we were indebted to various sources of information, all of them, as we supposed, entitled to confidence. Our data in regard to the University of Nashville were founded partly upon the statements of members of the class of the Jefferson Medical College playing a prominent part in the stampede, and partly upon the annexed telegraphic dispatch, dated Nashville, December 20, 1860, and addressed to a medical student in this city:—

> "Yes; come one, come all.
> W. K. BOWLING"

Dr. Bowling, in the article referred to, states that no dispatch, or letter, from him was read at the students' meeting in this city on the twentieth of December. This assertion, it appears, was true, for we have just learned that the above dispatch was not received until a short time after the adjournment of the meeting. Be this, however, as it may, it reached here some time before their departure, and was no doubt extensively circulated.

In the article of our journal, above referred to, we included the schools at New Orleans as among those that had opened their arms to the disaffected students. It is due, however, to the University of Louisiana to say, that she stood entirely aloof from any participation in the movement. We make this statement upon the assertion of our colleague, Dr. Richardson, the Professor of Anatomy in that institution, who declares that the whole faculty were opposed to the proceeding, and that no dispatch, or communication of any kind, was sent by them to this city either before, during, or after the stampede. The Shelby Medical College of Nashville, we are happy to say, makes a similar disclaimer in the February number of the Nashville Medical Record.

INOCULABILITY OF DIPHTHERITIS.—In the *Gazette Hebdomadaire*, we find the substance of a discussion at the Medical Society of the Hospitals of Paris, upon the transmissibility of diphtheritis by inoculation, and the report of two cases supposed to have been produced by dissection wounds.

The subject of the first case was a physician, who pricked his finger with a bistoury that had been used in the operation of tracheotomy for croup. In a few hours the wounded part became swollen, and the seat of severe pain, which was followed by the development of an abscess. Fifteen days after the accident, the finger not being completely cured, he exposed himself to cold, and was seized with a chill in the evening, and with a pain in the throat during the night. The next morning false membrane was found on the right tonsil, which, on the following day, had extended to the left gland. Three or four days later his wife was attacked with pseudo-membranous inflammation of the throat, but both recovered.

The second case occurred in the person of a medical student, who pricked his left thumb in making an examination of a child dead of diphtheritis. At the time of the autopsy he had a cough and influenza.

In spite of every precaution, he had on the same evening every symptom of inflammation of the lymphatics, which extended on the following morning to the axilla. On the third day he suffered from sore-throat, and the submaxillary lymphatic glands were slightly enlarged. On the following day the lymphatitis had disappeared, but the angina increased and became pseudo-membranous two days later. On the seventh day the lower lip was attacked with herpes, but in nine days more he was perfectly well.

The majority of the members of the Society did not consider these as true examples of inoculated diphtheritis, but that they were due to epidemic influence. A fact in confirmation of their opinion is, that M. Peter, a resident of the Children's Hospital, has made several unsuccessful attempts to inoculate himself with the matter of membranous croup, by introducing it into his lower lip and even brushing it on his pharynx, without any local or general result.

HYPNOTISM.—Considerable excitement has been produced in Paris during the past few months, by the application of hypnotism to surgical operations, and the subject was presented to the Academy of Sciences by M. Velpeau as a new discovery; but upon investigation, it was found that it was merely the revival of a method suggested ten years ago by Dr. Braid, of England. It consists in holding a bright object a few inches in front of the eyes, so that they are directed upon it while the superior recti muscles are contracted to their utmost extent. Convergent strabismus is produced; the patient falls into a cataleptic condition, and anæsthesia results, which lasts a few minutes, but which is interrupted by slight noise or by the movement of the object before the eyes.

MM. Broca and Follin had under their care a patient affected with perineal abscess, which was opened under the influence of hypnotism, without any pain. From a large number of experiments conducted in the Paris hospitals, it has been shown that, with very few exceptions, women alone were affected, and that the failures have been much more numerous than the successes. Drs. Demarquay and Giraud Teulon found that the results were very variable in women, and in fifteen instances anæsthesia was produced in but two, and in these the impression was neither lasting nor profound. From the account of the very many attempts made to utilize the procedure, we may affirm that hypnotism is utterly worthless as an anæsthetic agent.

AGE OF THE LATE DR. MUTTER.—The age of a distinguished man is sometimes a matter of greater importance than the world at large is willing to admit; at all events, it is frequently of considerable interest. The age of Dr. Mütter is stated, by Professor Pancoast, in his late eulogy, at forty-eight. In conversation recently with a physician, himself a gentleman of distinction, he assured us that he had known Dr. Mütter from his earliest boyhood, and that his age, at the time of his death, could not have been less than fifty-six. We remember when Dr. Goodman died his age was stated at thirty-two or three, but was subsequently ascertained to have been thirty-seven. The appearance of Mütter certainly denoted a more advanced age even than that assigned to him by his friend and early companion.

THE AMERICAN MEDICAL ASSOCIATION will hold its thirteenth annual meeting at New Haven, on the *first Tuesday of June*, 1860.

The secretaries of local societies, colleges, and hospitals are requested to forward the names of delegates, as soon as they are appointed, to

STEPHEN G. HUBBARD, M.D.,
Secretary.
NEW HAVEN, CT.

REVISION OF THE UNITED STATES PHARMACOPŒIA.—It will be seen from the following circular, signed by Dr. George B. Wood, that the Convention for revising our National Pharmacopœia, will be held at Washington City on Wednesday, the 2d of May next.

The following appointments of delegates to the Convention for revising the Pharmacopœia, to meet at Washington on the first Wednesday in May next, having been duly made known to me, are hereby announced in compliance with a provision of the convention of 1850.

From the Massachusetts College of Pharmacy, Messrs. Theodore Metcalf and Charles T. Carney; from the New York Academy of Medicine, B. W. McCready, M.D., E. H. Davis, M.D., and E. R. Squibb, M.D.; from the College of Physicians of Philadelphia, Geo. B. Wood, M.D., R. P. Thomas, M.D., and Robert Bridges, M.D.; from the University of Pennsylvania, Jos. Carson, M.D., R. E. Rogers, M.D., and Jos. Leidy, M.D.; from the Jefferson Medical College of Philadelphia, Franklin Bache, M.D., and T. D. Mitchell, M.D.; from the Philadelphia College of Pharmacy, Messrs. Wm. Procter, Jr., Edward Parrish, and Alfred B. Taylor; from the Medical Society of the State of North Carolina, Wm. George Thomas, M.D., Peter E. Hines, M.D., and Edward Warren, M.D.; from the Medical Society of the State of New York, Drs. E. R. Squibb, Howard Townsend, and Caleb Green; from the College of Pharmacy of the City of New York, Messrs. Wm. Hegeman, Alex. Cushman, and John Meakim; from the Faculty of Physic of the University of Maryland, Professors Samuel Chew, Charles Frick, and Wm. E. A. Aikin; from the Maryland College of Pharmacy, Messrs. G. M. Andrews, Israel J. Graham, and Alpheus P. Sharp; and from the Cincinnati College of Pharmacy, Messrs. E. S. Wayne, W. S. Merrell, and W. J. M. Gordon.

By order of the Convention of 1850.
GEO. B. WOOD, *President.*
PHILADELPHIA, February 14, 1860.

[Medical journals will please copy.]

PHILADELPHIA ANATOMICAL ROOMS.—The class of Dr. Agnew, the accomplished superintendent of these apartments, amounted this winter to two hundred and forty-six, the largest number of pupils, probably, ever assembled in the amphitheatre of any private teacher in the world.

JEFFERSON MEDICAL COLLEGE.—The catalogue of this institution, just issued, presents the names of six hundred and thirty students, constituting the largest class ever assembled within her walls.

MEDICAL CLASSES IN CANADA.—We copy the following statement respecting the number of medical students in Canada, from our contemporary, the *British American Journal* for January, 1860:—

University of Victoria College, (Rolph's School, Toronto,)........	64
School of Medicine, Toronto.........	56
University of Queen's College, Kingston..	77
University of McGill College, Montreal..	108
School of Medicine, (French Canadian,) Montreal..........................	62
University of Laval, Quebec..........	32
Total..	399

BRAITHWAITE'S RETROSPECT.—An epitome of this work, from its commencement to the present time, has been prepared by Dr. Walter S. Wills, and is to be issued in five parts, at one dollar each. The first number has just been published at New York, forming a handsome octavo of upwards of 300 pages. The original work is comprised in forty volumes, the complete set costing no less than thirty dollars. The abridgement, which seems to have been prepared with great care, should be in the library of every young physician in the country.

NEW MEDICAL JOURNALS.—It affords us pleasure to chronicle the advent of four new medical periodicals, whose titles are as follows:—

The *British American Medical Journal*, devoted to the advancement of the medical and physical sciences in the British American Provinces. Edited by Archibald Hall, M.D., F.R.C.S., Professor of Midwifery and the Diseases of Women and Children in the University of McGill College, Montreal. Montreal, January, 1860.

The *Chicago Medical Examiner*, a monthly journal, devoted to the educational, scientific, and practical interests of the medical profession. Edited by N. S. Davis, M.D., Professor of Medicine in the Lind University; and E. A. Steele, M.D. Chicago, January, 1860.

The *Kansas City Medical and Surgical Review*. Edited by G. M. B. Maughes, M.D., and T. S. Case, M.D. Kansas City, January, 1860.

The *Louisville Medical Journal*. Edited by Thomas W. Colescott, M.D. Louisville, February, 1860.

Here, then, are four new medical journals, and all born about the same time! We wish them all a long and prosperous career, hoping that the shadows of the editors, among whom we recognize some old and valued friends, may extend farther and farther until they cover the length and breadth of our own country and of the British Provinces of North America! Professor Hall, of Montreal, is well known to the profession of the United States as the able editor of a former medical journal, and for his valuable contributions to medical science. He is a gentleman of great practical ability, highly educated, and universally recognized as one of the leading obstetricians in Canada. Professor Davis is a veteran in journalism; and, with the aid of his colleague, Dr. Steele, the *Chicago Examiner* cannot fail to make its way to patronage and distinction. Drs. Maughes and Case have given evidence, in the first number of their *Review*, the only one that has reached us, of marked ability and good taste, and we wish them well in their new enterprise. Dr. Colescott was formerly associated with Dr. Drake and Dr. Yandell in editing the *Western Journal of Medicine and Surgery*, but abdicated long before the death of that periodical, in 1855. We hail his return to the editorial corps with much pleasure, convinced that he will conduct the *Louisville Medical Journal* with great ability and piquancy, and without any regard whatever to sectionalism, party feeling, college interests, or medical cliques. The whole number of medical periodicals at present in the United States must be about fifty, assuredly quite enough for all useful purposes. We shall be happy to place these new journals on our exchange list.

NECROLOGICAL NOTICES.

DR. WILLIAM F. H MONTGOMERY.—It is with the deepest regret that we are called upon to record the name of this distinguished member of our profession among those of the illustrious dead. Professor Montgomery, well known as an elegant lecturer and copious author, died in Dublin, at the age of sixty-two, of disease of the heart, on the 21st of December, 1859. Early in life he evinced talents of the highest order, and obtained a scholarship in Trinity College, in 1820. Five years subsequently he took the degree of Bachelor of Medicine, and soon after entering upon his professional career he gave lectures on midwifery to full classes of students, and to his exertions was due the founding of the Chair of Midwifery in the King's and Queen's College of Physicians in Ireland, which he filled with so much distinction for a period of thirty years.

Dr. Montgomery's contributions to medical and obstetrical literature were very numerous, and are to be found chiefly in the *Dublin Quarterly Journal.* He also wrote several important articles for the Cyclopedia of Practical Medicine; but his reputation is based mainly upon his "Exposition of the Signs and Symptoms of Pregnancy," and on his essay upon "Spontaneous amputation of the fœtal limbs in utero."

DR. JOSEPH AYRE, of Hull, died on the 15th of January, of this year, of disease of the bladder, having attained the ripe old age of seventy-nine. He was an indefatigable worker, and a frequent contributor to various medical journals, his last production being a memoir—read in 1857 before the Academy of Sciences of Paris—on the best mode of curing cholera, entered in competition with a hundred and fifty other essays for the Briant prize.

The committee considered his treatise the best that was presented, but did not award the prize to it, as the collection of facts was not large enough to entitle his treatment to be considered as a specific.

Dr. Ayre published, in 1818, a work "on the Disorders of the Liver," and in 1826, a "Treatise on Dropsy," both of which were translated into German.

DR. JAMES ADAIR LAWRIE.—The following notice is taken from the *London Lancet* of December 3, 1859:—

> "The death of this distinguished surgeon will be felt as a great calamity in the sister city, and in the west of Scotland generally. Dr. Lawrie had long enjoyed a large and lucrative practice, and very many of his patients had become old personal friends. His especial professional eminence was as a surgeon, but it was his knowledge of the profession in all its departments that made him so singularly useful and successful. He was scarcely less trusted and sought after as a physician than as a surgeon. His constant kindness to the junior and poorer members of the profession will make his memory cherished by many of the race that follows him. His enlightened views on the subject of medical education led to his election, by the Universities of Glasgow and St. Andrews, as their representative in the new Medical Council."

Bi-Monthly Bibliographical Record.

AMERICAN.

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MAY, 1860.

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Yellow Fever, considered in its Historical, Pathological, Etiological, and Therapeutical Relations. By R. LA ROCHE, M.D.
A Practical Treatise on the Diseases of Children. By D. F. CONDIE, M.D.
A Practical Treatise on the Diseases of Children. By J. F. MEIGS, M.D.

IN order that our readers may not be kept in suspense respecting our purpose in introducing to their notice the titles of sundry works separated by considerable periods of time, and treating of so many different topics, we may as well say at once, that it is our intention to discourse somewhat on the Medical Literature of Philadelphia. The subject follows naturally enough the "Medical Institutions of Philadelphia," an historical outline of which we gave in the last number of this journal.

The medical (and the observation will apply to the general) literature of Philadelphia is not remarkable for originality or depth of research in any one department. Its characteristics are sobriety of thought, honesty of purpose, and plain, and, for the most part, lucid digests of existing facts and opinions, together with commentaries which display habits of study and reading, if not profound learning. Seldom is it embellished by classical allusions or graces of style; but, on the other hand, it is not often disfigured by random hypotheses, strained analogies, and turgid forms of expression. The prose may be at times dull, but it creates no feigned nor doubtful issue; and, with few exceptions, it is not prose run wild or mounted on stilts. If it fails to secure animated applause, it is, at least, safe from ridicule.

Supposing our appreciation of it to be correct, we must not, in the medical literature of Philadelphia, look for the gushing fountain and rapid flow of invention and discovery, but ought rather to compare it to the extensive reservoirs at Fairmount, which supply by numerous conduits all parts of the city with pure and salubrious water for every purpose of personal and domestic as well as manufacturing and sanitary requirement. So are the contents of the vast medico-literary reservoir at Philadelphia distributed to nearly every part of the United States, to allay the thirst for knowledge and to meet many of the wants both of the youthful student and of the matured practitioner. The machinery for this purpose is twofold: first, by the oral instruction of the professors of the medical schools; and next, by the written and published lore, contributed in part by these same professors, and in part by their medical brethren who are not engaged in teaching, but whose aspirations are in this direction, or who find incentives to authorship in the more diffused appetite for reading created by the delivery of lectures and the making of text-books. Whatever may be the shortcomings of its medical schools, in not meeting all the varied requirements of medical instruction, we can hardly fail to see that the distinction Philadelphia has acquired in medical literature is in a great measure owing to the atmosphere created by these schools and the germination of the seeds sown in their lectures.

Wanting some genial influences of this nature, the general literature of the City of Penn continues to languish. Why is it that, on the one hand, the medical department of the University of Pennsylvania, without endowment or official encouragement of any kind, but, instead, heavily taxed by the payment of a large annual rent for the use of its college building, should have exerted such a benign and diffusive influence on medical literature; and, on the other hand, that the Faculty of Arts, free from any such taxation, and salaried by the Trustees, should have done so little for general literature and science, either in productions of its own or in scattering the seeds from abroad, passes our comprehension. For more than a century the University of Edinburgh has had its chair of moral philosophy filled by an uninterrupted succession of profound thinkers and eloquent teachers—Adam Ferguson, Dugald Stewart, Dr. Thomas Brown, John Wilson, and in a similar line, although in a different chair, Sir William Hamilton, all of them distinguished in more than one walk of literature or science, whether it were history, mathematics, criticism, poetry, æsthetics, or logic. Of the successive incumbents in the chair of moral philosophy in the University of Pennsylvania, one, after long deliberation, sent out a "Search after Truth in the Science of the Human Mind." His successors seem to await the result of the search, which they suppose is being made by somebody, but themselves not caring to agitate the questions to which reference to the work itself must give rise. While we admit the ability and painstaking of the Faculty of Arts of the University, we must regret that its modesty, so rare in these days of "Young America," prevents the results of its labors from reaching the public eye and ear, or from being measured by public opinion, except at commencement anniversaries, on which occasion a column of a newspaper contains a list of the names of those who have passed examination, and a notice of the addresses of sundry young masters, all of whom are supposed to have completed their studies at an age when the aspirants for distinction in scholarship and literature feel that theirs have only properly begun. Who, at a distance, hear of the existence of the University of Pennsylvania as they do of that of Harvard or of the college at Princeton? How many, even of the citizens of Philadelphia, are aware of their having such an institution in the midst of them? And of those cognizant of the fact, how small is the number that care for it, or can, without a violent strain on their civic pride, connect its name with, we will not say originality of view and discovery, but with out-door progress even, in literature, science, or the fine and liberal arts! We have sometimes heard of the odd way in which a trustee of the University exhibits his opinion of its educational competency and his kindly desire to promote its success. It is neither more nor less than sending his son to a college down East, from which the youthful graduate returns, less indeed of a Philadelphian, but not always more of a scholar. "Call you that backing your friends?"

Whence this apathy, this evident want of concentrated efforts for literary advancement and of congenial feeling for an intellectual worker, whether he be poet or political economist, mathematician or moralist? The calm surface of Philadelphia literature is in no danger of being ruffled by underlying enthusiasm, and if there should, by any chance, be a gush of this latter sentiment, it is looked upon as a prodigy, or rather a portent, which drives the people from their propriety; and even they who for awhile indulged in it breathe more freely when it has subsided. We may advert, in illustration of our meaning, to the excitement caused by Dr. Kane's narrative of his Arctic expeditions and adventures. Both the adventures and their history broke up for a season, in quite a startling manner, the monotony of Philadelphia public life and literature. This slowness of appreciation of whatever goes beyond the line of conventional agreement is caused much more by timidity and fear of change than by envy, to which it has been sometimes, but erroneously, attributed. Owing to this infirmity in the Philadelphia mind, there is a want of heartiness of co-operation among its citizens in general, and among the several classes of these, for the advancement of any new measure, whether it be commercial, financial, or literary. Voluntary associations, numerous and well intended as they are, fail to make up for this deficiency. They are the expression of a desire on the part of well-meaning associates to meet obvious wants and deficiencies, and so far call for sympathy. The very name and programme of the objects aimed at by a society are suggestive of kindred if not imitative and rival efforts in other directions. Even the failure to accomplish its original purposes incites to the trial of a different method to obtain the desired results. In this sense, to the American Philosophical Society may be attributed the origin of the Academy of Natural Sciences and the Historical Society, and to the University of Pennsylvania the High School and the Polytechnic School. Other secessions, such as that from the Academy of Fine Arts, have not been equally successful, although the necessity still exists for a good school of art properly endowed and put in working order. Let us not fail, however, to speak in becoming terms of praise of the exertions of those who founded and sustained the institution just named. If the rectangular streets and the drab coats of the City of Penn and his companions and their descendants have proved to be inauspicious to poetry, they have not interfered with the waving lines and varied hues spread by the painter on his canvas, when he would portray the human face divine, or exhibit scenes of rural beauty. In each of these departments, or of portrait and landscape painting, Philadelphia art has competed well with rival exhibitions from other quarters, while biding her time to contest the palm for the more studied compositions and groupings, and the bolder contrasts and greater depth of color, in historic painting.

It must be acknowledged, before closing these incidental remarks, that although Philadelphia is often backward in the suggestion and slow in carrying out improvements of various kinds, yet when the thing is done, it is well done. Resting on a knowledge of this kind, we may reasonably hope that when her people do apply themselves earnestly to literary productions of a high order, they will go beyond those of their neighbors who are now in advance of them.

The medical literature of Philadelphia can scarcely be said to have begun or exhibited any noticeable features until after the war of Independence. The slight contributions furnished by Dr. Thomas Cadwallader, on the "Iliac Passion," in 1740; by Dr John Kearsly, Jr., on "Angina Maligna," in the Gentleman's Magazine for 1769; and papers, the titles of which are unknown to us, by Dr. Thomas Bond, in a London periodical; and the discourse on Comparative Anatomy, by Dr. John Morgan, may serve to gratify bibliographical curiosity without making any substantial addition to our present subject. It is somewhat surprising, indeed, that there should be no history of the yellow fever of 1762, save in a note kept by Dr. Rush, then a youth only seventeen years of age, and in a letter addressed by Dr. Redman, an eminent practitioner, to the College of Physicians in 1793.

With the writings of Dr. Benjamin Rush begins, properly, the medical literature of Philadelphia, and may we not say also of North America? They have been published in four volumes, under the title of "Medical Inquiries and Observations." In another separate volume, but with the same general title, is the treatise on "The Diseases of the Mind." They embrace a great variety of topics—physiological and psychological, hygienic, therapeutical, and ethical—and evince a wide range of inquiry and acuteness of observation, blended with ingenious and sometimes fanciful speculations. All of them wear an air of freshness, are eminently suggestive, and are pervaded by such a high moral tone and benevolent spirit as to make the reader in love with their author, even when at times he may demur to the soundness of his argument. Seldom is an attempt made to carry out a proposition to its ultimate consequences by a systematic process of rigid induction. More generally the thing affirmed is sustained by the citation of analogous facts which have come under the observation of the author, or are furnished by his reading. Without any parade of learning or effort at intellectual fence, he handles his materials with the ease of a man who has thought long and earnestly on his subject, and is desirous that others should feel the same interest in it that he does himself. We may be disappointed in not finding profound research, but, in return, we are sure to be gratified with the frequent exhibition of broad and comprehensive views, suggestions which have, in other hands, become discoveries, and predictions, or the effusions of sanguine hope, which, in their subsequent realization, seem to border on prophecy.

We shall first notice the discourses of a more general nature. Of these the one which takes precedence on the score of date is "An Inquiry into the Natural History of Medicine among the Indians of North America, and a Comparative View of their Diseases and Remedies with those of Civilized Nations." This was read before the American Philosophical Society on the 4th of February, 1774, as an anniversary oration, and as a substitute for one that was to be delivered by Mr. Charles Thompson, soon to be known and celebrated as secretary to the first Continental Congress, which met in the month of September of that year. Mr. Thompson was prevented by want of health from performing the task assigned him by the Society. We do not know whether the subject of Dr. Rush's Discourse grew out of a knowledge of Mr. Thompson having intended to discuss the subject of the Indians, or of any suggestion offered by this gentleman, who had been adopted by these people into one of their tribes, and was designated by them under a name signifying "the man of truth." In the fermentation of men's minds at the expectation of the coming contest between the colonies and the mother country, in which Dr. Rush was destined to take a conspicuous share, it must be a matter of some surprise that he could apply himself actively to any investigation not actually forced upon him in his professional walks, and his professorial duties in the College of Philadelphia. He was at the time only twenty-nine years of age.

After announcing the subject of his discourse, Dr. Rush points out the difficulties of an inquiry of this nature, and asks: "How shall we distinguish between the original diseases of the Indians, and those contracted from their intercourse with Europeans? By what arts shall we persuade them to receive their remedies? And lastly, how shall we come at the knowledge, facts, or cloud of errors in which the credulity of the Europeans and the superstition of the Indians have involved both their diseases and their remedies?" "In the earliest accounts we have of them we find them cultivating a spot of ground. The maize is an original grain among them. The different dishes of it which are in use among the white people still retain Indian names." Dr. Rush next inquires into the customs among these people which are known to influence diseases. Accordingly, he proceeds to speak of the birth and treatment of their children, their diet, the customs which are peculiar among the sexes, and finally those which are common to them both.

Under the first of these heads, the author very truly remarks, that much of the future health of the body depends upon its original stamina. A child born of healthy parents always brings into the world a system formed by nature to resist the causes of diseases. The treatment of children among the Indians tends to secure their hereditary firmness of constitution. Their first food is their mothers' milk. To harden them against the action of heat and cold (the natural enemies of life among the Indians) they are plunged into cold water. In order to facilitate their being moved from place to place, and at the same time to preserve their shape, they are tied to a board, where they lie on their backs for six, ten, or eighteen months. This forced inaction of the spinal muscles and those of the back generally cannot be called a natural or a healthy posture.

> "A child generally sucks its mother till it is two years old, and sometimes longer. It is easy to conceive how much vigor their bodies must acquire from their simple but wholesome nourishment. The appetite we sometimes observe in children for flesh is altogether artificial. The peculiar irritability of the system in infancy forbids stimulating aliment of all kinds. Nature never calls for animal food till she has provided the child with those teeth which are necessary to divide it. I shall not undertake to determine how far the wholesome qualities of the mother's milk is increased by her refusing the embraces of her husband during the time of her giving suck."

In speaking of the diet of the Indians, which is of a mixed nature—animal and vegetable—the author observes, in reference to the condimental use of salt: "Although the interior parts of our continent abound with salt springs, yet I cannot find that the Indians used salt in their diet till they were instructed to do so by the Europeans." They preserve their meat from putrefaction by cutting it into small pieces, and exposing it to the sun, and in winter to the frost. "The Indians have no set time for eating, but obey the gentle appetites of nature as often as they are called by them. After whole days spent in the chase or in war, they often commit those excesses in eating to which long abstinence cannot fail of prompting them. It is common to see them spend three or four hours in satisfying their hunger. This is occasioned not more by the quantity they eat than by the pains they take in masticating it. They carefully avoid drinking water on their marches, from an opinion that it lessens their ability to bear fatigue." In another part of the discourse we read: "It is a practice among the Indians never to drink before dinner when they work or travel. Experience teaches that filling the stomach with cold water in the forenoon weakens the appetite and makes the system more sensible of heat and fatigue."

We cannot follow Dr. Rush in noting the several topics on which he discourses in succession, relating to Indian life, as it is not our purpose to give analyses of the several works which will come before us, but rather some ideas of their scope and general purposes. Subsequent and more intimate intercourse with the Indians, on the part of travelers and explorers, than that enjoyed by the author of the discourse, has modified some of the opinions held respecting the character and usages of these people. Much of the interest and value of the subject as handled by him grow out of the reflections which accompany his statement of facts, and the comparisons between civilized and savage life. In this respect the inquiry of Dr. Rush into the natural history of medicine among the Indians of North America will always retain a certain degree of freshness and insure a ready and attentive perusal.

The author goes on to speak of the late period of the appearance of the menses in Indian women, or not before they are eighteen or twenty years of age; then of their easy labors, and of there hardly being a period in the interval between the eruption and the ceasing of the menses in which they are not pregnant or giving suck. The custom of what one would call late marriages among the Indians—men seldom marry before they are thirty years of age—is assigned as a cause of considerable vigor enjoyed by them, and of entailing on their children more certain health. Tacitus is referred to as describing the same custom among the Germans, and with the like results. The customs common to both sexes are painting and the use of the cold bath. Their pigment of bear's grease mixed with clay "serves to lessen the sensibility of the extremities of the nerves; it moreover fortifies them against the action of those exhalations, which we shall mention hereafter as a considerable source of their diseases." The corroborant effects of the cold bath are also pointed out. The Indians are represented to be exempt from most of those passions which disorder the body. We do not see, however, in what manner "the turbulent effects of anger are concealed in deep and lasting resentments." The prolonged operation of revenge on the system must certainly be a powerful disturbing cause of both mental and bodily tranquillity.

It is remarkable that there are no deformed Indians. Some have suspected, from this circumstance, that they put their deformed children to death; but nature here acts the part of an unnatural mother. The severity of the Indian manners destroys them. In a note, the author qualifies his first assertion of the freedom of these people from deformity, by saying, that since the intercourse with whites some of the Indians have become deformed in their limbs. "This deformity, upon inquiry, appears to be produced by those accidents, quarrels, etc., which have been introduced among them by spirituous liquors." In reference to their diseases, it is broadly affirmed, that fevers constitute the only diseases among the Indians, with a specification, that the first division is into those "of the inflammatory kind," produced by cold and heat, such as pleurisies, peripneumonies, and rheumatisms. "Those which are produced by the insensible qualities of the air, or by putrid exhalations, are intermitting, remitting, inflammatory, and malignant, according as the exhalations are combined with more or less heat or cold. The dysentery (which is an Indian disease) comes under the class of fevers. It appears to be the *febris introversa* of Sydenham." The small-pox and the venereal disease were communicated to the Indians of North America. "Nor can I find," says Dr. Rush, "that they were ever subject to the scurvy." The remark by the author, that he had only heard of two or three cases of gout among the Indians, and then only among those who had learned the use of rum from the white people, is followed by an inquiry into the reasons why the gout does not appear more frequently among that class of civilized people who consume the greatest quantity of rum? The explanations offered are of a purely speculative nature, and instead of an inquiry into the comparative effects, physiological and pathological, of fermented and distilled liquors, the author solves the difficulty by such language as the following: "The effects of wine, like tyranny in a well-formed government, are felt first in the extremities; while spirits, like a bold invader, seize at once upon the vitals of the constitution." This over-readiness, not merely to illustrate by remote analogies, but to adduce them as actual steps in the causation, was one of the infirmities in Dr. Rush's mode of argument. But few instances of insanity were found among the Indians, and these were of "melancholy" and "madness; "but none of "fatuity." The author could not find any accounts of diseases from worms among them—an exemption which has not been corroborated by later observers. Dentition is said to be unaccompanied by disease in their children. Dr. Rush concludes that the only natural outlets of human life with the Indians are fevers, old age, casualties, and war. This last is declared by the writer to be "nothing but a disease; it is founded on the imperfections of political bodies, just as fevers are founded on the weakness of the animal body."

The remedies of the Indians, "like their diseases, are simple and few in number." Fevers are fancifully represented by Dr. Rush to be the principal instruments in the hands of nature to remove the evils which threaten dissolution. He divides the remedies used by the Indians into natural and artificial. His remarks on these are suggestive.

> "To the class of natural remedies belongs the Indian practice of abstracting from their patients all kinds of stimulating aliment. The compliance of the Indians with the dictates of nature in the early stage of a disease no doubt prevents, in many cases, their being obliged to use any other remedy. They follow nature still closer in allowing their patients to drink plentifully of cold water, this being the only liquor a patient calls for in a fever.
>
> "Sweating is likewise a natural remedy. It was probably suggested by observing fevers to be terminated by it. I shall not inquire how these sweats are essential to the crisis of a fever. The Indian mode of procuring this evacuation is as follows: The patient is confined to a close tent or wigwam, over a hole in the earth, in which a red-hot stone is placed; a quantity of water is thrown upon this stone, which instantly involves the patient in a cloud of vapor and sweat; in this situation he rushes out and plunges himself into a river, from whence he retires to his bed. If the remedy has been used with success, he rises from his bed in four-and-twenty hours perfectly recovered from his indisposition. This remedy is used not only to cure fevers, but to remove that uneasiness which arises from fatigue of body."

This kind of vapor bathing is practiced among the Russians, on a larger scale.

A third natural remedy among the Indians is purging; and vomits constitute a fourth. "The ipecacuanha is one of the many roots they employ for that purpose." The artificial remedies made use of by these people are bleeding, caustics, and astringent medicines. They confine bleeding entirely to the part affected. "Sharp stones and thorns are the instruments they use in procuring a discharge of blood." The Indians employ "something like a potential caustic in obstinate pains. It consists of a piece of rotten wood, called *punk*, which they place upon the part affected, and afterwards set it on fire; the fire gradually consumes the wood, and its ashes burn a hole in the flesh." Here we find, with but slight modification of material, the Chinese method of cauterizing with moxa. Dr. Rush was unable to say whether the Indians relied upon astringent or other vegetables for the cure of intermitting fever.

> "This is a short account of the remedies of the Indians. If they are simple, they are like their eloquence, full of strength; if they are few in number, they are accommodated, as their languages are to their ideas, to the whole of their diseases."

Dr. Rush inquires next into the diseases and remedies of civilized nations. Taking Great Britain as a representative of them, he traces the origin of the diseases of her people through their customs, in the same manner as he did those of the Indians. He shows himself to be master of his subject, large and comprehensive as it is, by his exhibition of its prominent points, and appropriate remarks on each of them. He sketches rapidly, but with a firm touch, the chief causes of disease in an abuse of the non-naturals among children, added to premature studies and an original defect of stamina inherited from their ancestors. "Civilization rises in its demands on the health of women." Every phrase in his specification has the force of a picture. Not less striking are his remarks on the diseases of civilization, which extend themselves "through every class and profession among men. How fatal are the effects of idleness and intemperance among the rich, and of hard labor and penury among the poor! What pallid looks are contracted by the votaries of science from hanging over the 'sickly taper!' How many diseases are entailed upon manufacturers by the materials in which they work, and the posture of their bodies!" In speaking of the effects of war, the author gives a picture of occurrences and their causes in his own day, which might be taken to represent the disasters at Walcheren and in the Crimea, in the present century.

> "War, as if too slow in destroying the human species, calls in a train of diseases peculiar to civilized nations. What havoc have the corruption and mo-

nopoly of provisions, a damp soil and an unwholesome sky, made in a few days, in an army! The achievements of British valor at the Havana, in the last war, were obtained at the expense of 9000 men, 7000 of whom perished with the West India fever. Even our modern discoveries in geography, by extending the empire of commerce, have likewise extended the empire of diseases. What desolation have the East and West Indies made of British subjects! It has been found, upon a sure calculation, that only ten of a hundred Europeans live above seven years after they arrive on the island of Jamaica."

Before proceeding to speak of the remedies of civilized nations, Dr. Rush "examines into the ability of nature in curing these diseases." By nature he understands nothing but *physical necessity*, to the exclusion of everything like intelligence from her operations, which "are all performed in obedience to the same laws which govern vegetation in plants, and the intestinal motions of fossils." He also gives a history, in the form of a series of propositions, of the operations of nature in a few of the diseases of civilized nations. These are little else than the expression of known facts in the phenomena of disease, dressed in a figurative style. His bias is shown in the concluding lines of a paragraph describing the general nature and origin of the remedies of civilized nations, in which we read, "that although physicians are in speculation the servants, yet in practice they are the masters of nature. The whole of these remedies seem contrived on purpose to arouse, assist, restrain, and control her operations." A comparative view is taken of the diseases and remedies of the Indians with those of civilized nations. The great mortality from fevers, in London, is spoken of with some enforcing figures; and the remark is made that they have been supplanted by new diseases, the offspring of luxury. The following prediction by an eminent Virginia physician is worth noting here, as it has been in process of rapid fulfillment. "Our countryman, Doctor Maclurg, has ventured to foretell that the gout will be lost in a few years, in a train of hypochondriac, hysteric, and bilious diseases."

The alleged success in prognosis of the Indians is compared with that of civilized people, little to the credit of the former. Reference is made to Hippocrates, with the following remark: "I was once an idolater at his altar, nor did I turn apostate from his worship till I was taught that not a tenth part of his prognostics corresponded with modern experience or observation." Still must we read with a respectful interest, if not veneration, the books of Hippocrates on "Prognostics" and "Prorrhetics." We shall find in the opening part of the first of these a recommendation to study the countenance of a sick person, and a description of a particular expression of the features known ever since as the *facies Hippocratica*, which every physician recognizes, in his own experience, as most truthful and accurate. So also of the posture of the patient, and his sawing the air, and catching as it were at objects which in his delirium he imagines he sees before him.

An apology is offered for the instability of the theories and practice of physic, which we do not repeat. It is in consequence of this fluctuation "being so necessarily connected with the changes in the customs of civilized nations, that old and young physicians so often disagree in their opinions and practices. And it is by attending to the constant changes in these customs of civilized nations that those physicians have generally become the most eminent who have soonest emancipated themselves from the tyranny of the schools of physic, and have occasionally accommodated their principles and practice to the changes in diseases." We are told "that the want of success in a medicine is occasioned by one of the following causes: First, our ignorance of the disease; secondly, our ignorance of a suitable remedy; thirdly, a want of efficacy in the remedy." Important truths, eloquently expressed, follow, respecting the impediments to successful practice; but we are unable to reproduce them here. Reference is made to the sinister effects on the body politic of the disease of a single prominent individual. "Justice has stopped its current, victories have been lost, wars have been prolonged and embassies delayed by the principal actors in these departments of government being suddenly laid up with a fit of the gout."

"Do the blessings of civilization compensate for the sacrifices we make of natural health, as well as of natural liberty?" In a more advanced part of the reply to this question the author justly remarks, that the complete enjoyment of health is as compatible with civilization as the enjoyment of civil liberty. Reference is made to hospitals, as "at the same time monuments of the charity and depravity of a people"—and sorrow expressed at the number of patients in the "hospital," and incurables in the "alms-house," of Philadelphia, showing that "we are treading in the enervated steps of our fellow-subjects in Great Britain." Were Dr. Rush now living, what would he say of the pauper palace, with its large population, on the other side of the Schuylkill River? "Our bills of mortality," continues the author, "likewise show the encroachments of British diseases among us. The nervous fever has become so familiar among us, that we look upon it as a national disease. Dr. Sydenham, so faithful in his history of fevers, takes no notice of it. Dr. Cadwallader informed me that it made its first appearance in this city about five-and-twenty years ago, (1750.)" Is not this fever the typhoid of the present day, the typhus mitior or slow nervous fever of English writers of the last century? It would seem from the following language held by Dr. Rush, as if phthisis were a new disease in the Colony of Pennsylvania. "It will be impossible to name the consumption without recalling to our minds the memory of some friend or relation who has perished within these few years by that disease. Its rapid progress among us has been unjustly attributed to the growing resemblance of our climate to that of Great Britain." Luxury, the attendant on civilization, would seem to have brought on its associated diseases, as we glean from the following: "The hysteric and hypochondriac diseases, once peculiar to the chambers of the great, are now to be found in our kitchens and workshops. All these diseases have been produced by our having deserted the simple diet and manners of our ancestors." A little farther on in the discourse, and the young philosopher avows himself still more decidedly to be *laudator temporis acti,* as when he says :—

> "Some of you may remember the time, and our fathers have told those of us who do not, when the diseases of Pennsylvania were as few and as simple as those of the Indians. The food of the inhabitants was then simple; their only drink was water; their appetites were restrained by labor; religion excluded the influence of sickening passions; private hospitality supplied the want of a public hospital; nature was their only nurse, and temperance their principal physician."

It is admitted by the author that the proportion of old people is much greater among civilized than among savage nations, and that fewer in proportion die among the former than the latter. In order that America may resist the tendency to deterioration and decay, and retrace her steps in luxury and effeminacy, Dr. Rush gives the following advice :—

> "I. Let our children be educated in a manner more agreeable to nature.
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> "II. Let the common people (who constitute the wealth and strength of our country) be preserved from the effects of ardent spirits. Had I a double portion of all that eloquence which has been employed in describing the political evils that lately threatened our country, it would be too little to set forth the numerous and complicated *physical* and *moral* evils which these liquors have introduced among us. To encounter this *hydra* requires an arm accustomed, like that of Hercules, to vanquish monsters. Sir William Temple tells us, that formerly in Spain no man could be admitted as an evidence in court who had once been convicted of drunkenness. I do not call for so severe a law in this country. Let us first try the force of severe manners. Lycurgus governed more by these than by his laws. '*Boni mores, non bonæ leges,*' according to Tacitus, were the bulwarks of virtue among the ancient Germans.
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> "III. I despair of being able to call the votaries of Bacchus from their bottle, and shall therefore leave them to be roused by the more eloquent twinges of the gout.
>
> "IV. Let us be cautious what kind of manufactures we admit among us. The rickets made their appearance in the manufacturing towns of England. Dr. Fothergill informed me that he had often observed, when a pupil, that the greatest part of the chronic patients in the London Hospital were Spittal-field weavers."

* * * "Perhaps a pure air and the abstraction of spirituous liquors might render sedentary employments less unhealthy in America, even among men, than the populous towns of Great Britain."

Agriculture is declared to be "the basis of national health, riches, and populousness." What was then prophecy is now history, in regard to the future growth and prosperity of the people of North America. The anticipations based on the condition of the colonies have been more than realized in that of independent States united into a federal republic; and with Dr. Rush we have good cause to believe that, "America is the theatre where human nature will probably receive her last and principal literary, moral, and political honors." At the time (1774) in which the discourse was delivered, Pennsylvania contained nearly three hundred thousand inhabitants, and of this number nearly thirty thousand composed a city which was the third, if not the second, in commerce in the British empire. This was the growth in a period less than a century. Within a similar period, Philadelphia has reached to more than twice the then population of the colony, and to more than twenty times that of the city.

Seldom, if indeed ever, has it fallen to our lot to read a discourse or dissertation, in so small a compass, consisting of materials so rich, suggestive, and fruitful, and handled in so philosophical and benevolent a manner as this one, delivered before the American Philosophical Society. It alone would give Dr. Rush a place in American literature, both general and medical; but the satisfaction felt at its perusal is alloyed with regret that others have not imitated its eminent author in making investigations of a similar nature, grouped in the same instructive manner. An expression of our opinion on this discourse is due in a measure to our readers, as a reason, we will not say apology, for a fuller analysis of its contents than we can promise for other subjects which will come before us in this article. We did not intend to give a retrospective view, nor shall we be able, we fear, to furnish even a short and an appreciable notice of the general design and objects of each work.

The next production of Dr. Rush which we shall notice, is "An Account of the Climate of Pennsylvania and its Influence upon the Human Body." It is the first paper in the second volume of his "Inquiries." The limits and geographical features of the State are first described; then follows a topographical account of the City of Philadelphia. The climate of Pennsylvania is represented to have undergone a material change, judging from "the accounts which have been handed down to us by our ancestors." In the way of specification, we are told that "thunder and lightning are less frequent, and the cold of our winters and heat of our summers are less uniform than they were forty or fifty years ago. Nor is this all; the springs are much colder, and the autumns more temperate than formerly, insomuch that cattle are not housed as soon by one month as they were in former years. Within the last eight years there have been some exceptions to part of those observations. The winter of the year 1779–80 was uniformly and uncommonly cold." The cold in the winter of the year 1783–4 was as intense, but not as steady, as it was in the winter that has been described. It would seem from some facts on record, that the winter of 1739–40 was still colder than that of 1779–80.

"There are seldom more than twenty or thirty days, in summer or winter in Pennsylvania, in which the mercury rises above 80° in the former, or falls below 30° in the latter season."* The warmest weather is *generally* in the month of July. The transitions of temperature are often great and sudden. "Vegetation has been observed in all the winter months. Garlic was tasted in butter in February, 1779, and I well remember, when a school-boy, to have seen an apple orchard in full bloom and small apples on many of the trees in the month of December." "The greatest degree of heat on record in Philadelphia is 95°. The standard temperature of the air in the City of Philadelphia is 52½°, which is the temperature of our deepest wells, as also the mean heat of our common spring water." The autumn is the most agreeable season in the year in Pennsylvania. Details of the direction and character of the winds, and of the quantity of rain and snow which fell in the year, are given.

"After what has been said, the character of the climate of Pennsylvania may be summed up in a few words. There are no two successive years alike. Even the same successive seasons and months differ from each other in every year. Perhaps there is but one steady trait in the character of our climate, and that is, it is uniformly variable." Differences between the climate east of the Alleghany Mountains and that of the region west of this great dividing line are indicated.

References are made to the climate of Pekin, the capital of China, and of Madrid, the capital of Spain, both of which cities are within a few minutes of the same latitude as Philadelphia, to show how much climates are altered by local and relative circumstances.

> "From a review of all the facts which have been mentioned, it appears that the climate of Pennsylvania is a compound of most of the climates in the world. Here we have the moisture of Britain in the spring, the heat of Africa in summer, the temperature of Italy in June, the sky of Egypt in the autumn, the cold

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* The degrees recorded are in every instance those of Fahrenheit's thermometer.

and the snow of Norway and the ice of Holland in the winter, the tempests in a certain degree of the West Indies in every season, and the variable winds and weather of Great Britain in every month of the year."

Of the acute diseases of the countries mentioned, we have, in Pennsylvania, inflammations and fevers. It is alleged by the author, on the testimony of many aged persons, that pleurisies and inflammatory diseases of all kinds are less frequent than they were forty or fifty years ago. "It is a well-known fact that intermitting and bilious fevers have lessened or disappeared in proportion as the country has been cleared of its wood in many parts of the State. It is equally certain that these fevers have lessened or disappeared in proportion as the country has been cultivated. Heavy rains and freshets in the spring seldom produce fevers unless they are succeeded by unseasonably warm weather. Sudden changes from heat to cold, or cool weather, if they occur before the twentieth of August, seldom produce fevers. After that time they are generally followed by them. The same state of atmosphere, whether cold or warm, moist or dry, continued for a long time, without any material changes, is always healthy. Acute and inflammatory fevers were in vain looked for in the cold winter of 1779–80. The dry summer of 1782 and the wet summer of 1783 were likewise uncommonly healthy in the City of Philadelphia." "Diseases are often generated in one season and produced in another." "Valetudinarians always enjoy the most health, in Pennsylvania, in the summer and winter months. The spring in a particular manner is very unfavorable to them."

The account of the climate of Pennsylvania closes with some admonitions to the inhabitants to be more careful than they have been in their domestic architecture and in their clothing, as a means of protection against its frequent vicissitudes. They have suffered from not adopting customs which are used in hot and cold countries to guard against the extremes met with, respectively, in these regions. "Those inhabitants of Pennsylvania who have acquired the arts of conforming to the changes and extremes of our weather in dress, diet, and manners, escape most of those acute diseases which are occasioned by the sensible qualities of the air; and faithful inquiries and observations have proved that they attain to as great ages as the same number of people in any part of the world." Vital statistics show that, at the present day, there is evidence to justify a still more favorable statement than that made by Dr. Rush in his time.

"An Inquiry into the Influence of Physical Causes upon the Moral Faculty" was delivered before the American Philosophical Society, on the twenty-seventh day of February, 1786. Twelve years before, or in 1774, Dr. Rush had addressed this society as a subject of George III., and an inhabitant of the Colony of Pennsylvania. Now he speaks as a citizen of an independent State soon to be knit in federative union with her sister States, and as a signer of the Declaration of their Independence, which he, for the future, loses no opportunity of strengthening and rendering available for the happiness of the people, by urging, with logic and eloquence, the necessity of suitable education for elevating their moral tone and increasing their intelligence.

Dr. Rush begins his "Inquiry" by defining the moral faculty, and correcting the error of Locke, who confounds it with reason, and of Shaftsbury, who blends it with taste; and he makes some acute observations on the doctrines of the materiality and immaterality of the soul. "St. Paul and Cicero gave us the most perfect account of it that is to be found in modern or ancient authors." The analogy is pointed out between the operation of physical causes on the intellectual faculties and of these same causes on the moral faculty. Instances are related of the total absence of this latter in persons remarkable for the power of their intellectual faculties, as in the celebrated Servin whose character is drawn by Sully. On the other hand, a highly active condition of the moral faculty may show itself with an almost obliteration of intelligence. "I once knew," said the author, "a man who discerned no one mark of reason, who possessed the moral sense or sympathy in so high a degree, that he spent his whole life in acts of benevolence. Dreams derange the intellectual faculties; they alter also, in a marked degree, the moral faculty. Sometimes there is an increase of the activity of both from the same cause." Dr. Rush on this point declares: "I have more than once heard the most sublime discourses of morality in the cell of an hospital; and who has not seen instances of patients in acute disease discovering degrees of benevolence and integrity that were not natural to them in the ordinary course of their lives?" A partial lesion of the moral faculty is not unfrequent. "I knew an instance of a woman who was exemplary in her obedience to every command of the moral law, except one. She could not refrain from stealing. What made this vice the more remarkable was, that she was in easy circumstances, and was not addicted to extravagance in anything." When unable to lay her hands on other things, she would secretly fill her pockets with bread, at the table of a friend.

With a view of supplying the defects of nosological writers, Dr. Rush names the partial or weakened action of the moral faculty, *micronomia.* The total absence of this faculty he calls *anomia.* The separation of moral from intellectual insanity was first clearly and distinctly made by Dr. Rush, and in advance of Pinel, Esquirol, Marc, and Prichard, who are often referred to, as original, by those who are ignorant of the services of the illustrious American in imparting a better knowledge and treatment of this form of mental aberration. So, also, in declaring and expounding the operation of physical causes on the moral faculty, he was in advance of Cabanis, whose treatise on the physical and moral nature of man did not appear until 1803. The first six of the twelve memoirs of which this work consists had, indeed, been read in the Institute at an earlier date, or in 1796 and 1797; but this was ten years after the subject had been fully laid open in the Inquiry now under notice, or in 1786.

Dr. Rush enumerates the physical causes which act on the moral faculty; adding pertinent observations on each of them. We dare not begin the enumeration, which would tempt us to make extracts for which we have no room. By our readers this will be considered a great privation when we tell them, that in every sentence there breathes philosophy and eloquence. Let it be borne in mind by those who think it necessary to expand the enumeration of a few simple truths into a swelling volume, that this comprehensive discourse does not occupy more than thirty moderately sized octavo pages.

Of a medico-psychological character is Dr. Rush's brief "Account of the Influence of the Military and Political Events of the American Revolution upon the Human Body." He introduces to our notice a new form of insanity which he calls *anarchia*, caused by an excess of the passion for liberty, influenced by the successful issue of the war.

The short "Inquiry into the Relation of Tastes and Aliments to each other and into the Influence of this Relation upon Health and Pleasure" contains many useful facts and a few fanciful explanations. The following is suggestive: "Those chemical medicines which decompose each other are not the only substances which defeat the intention of the prescriber. Galenical medicines, by combination, I believe frequently produce effects that are of a compound and contrary nature to their original and simple qualities." Appended remarks are made on the pleasures of eating.

"An account of the State of the Body and Mind in Old Age, with Observations on its Diseases and their Remedies," contains the result of observations made by Dr. Rush during the term of five years, upon persons of both sexes, who had passed the eightieth year of their lives. He mentions the circumstances which favor the attainment of longevity, the phenomena of mind and body which attend it, its peculiar diseases, and the remedies which are most proper to remove or moderate them. The circumstances which he enumerates as most favorable to longevity are the same as those which subsequent investigations have shown to be the most efficient.

Dr. Rush's "Inquiry into the Cause of Animal Life, in three Lectures, delivered in the University of Pennsylvania," was introductory to his course on physiology, as constituting a part of the Institutes of Medicine, of which he was at the time professor. Assuming the hypothesis of life being a forced state and the result of stimuli acting on sensitive parts and organs, the professor introduces a large amount of facts pleasantly arranged and connected by plausible theory. He shows how the vigor of the human frame and longevity are best maintained.

Appertaining to physiology and hygiene is Dr. Rush's "Inquiry into the Effects of Ardent Spirits upon the Human Body and Mind, with an Account of the Means of Preventing and of the Remedies for Curing Them." This treatise bears pleasing evidence of the keen observation of its author of all that related to man's well-being, and his benevolent earnestness in abating, if he could not remove, any practice or custom which stood in the way of social progress and happiness. Had his animated remonstrances and warning voice been listened to at the time, and found a ready response and sympathizing support among his professional brethren, not to speak of the members of other professions and those in stations of political influence, what an amount of human misery and degradation, of crime in individuals and expense to the State would have been saved! Facts, arguments, persuasion and dissuasion, are all to be found in this "Inquiry," which is a fit repertory for the use of all who would write or speak in support of temperance, and in deprecation of drunkenness and its horrible concomitant and attendant evils.

Looking for subjects more purely medical, we find two papers by Dr. Rush, on "The Cause and Cure of Pulmonary Consumption." Of these it may be said that, notwithstanding the great advances made in the study of the morbid anatomy of the lungs and the formation of tubercle, and careful investigations into the effects of remedies of different climates on the disease, they contain the main conditions for combating it with any degree of success as efficiently as those now at our disposal. Dr. Rush's elementary proposition, that pulmonary consumption is induced by predisposing debility, of which tubercles are effects, is the accredited opinion of the present day, and that on which the treatment, both therapeutical and hygienic, is founded. The same holds good of his assertion that pulmonary consumption is a primary disease of the whole system—a truth forgotten and unknown to the tribe of inhalation and syringe and sponge operators. He speaks of tracheal as well as of pulmonary consumption.

In treating of the *radical remedies* for the disease, he refers to what he had said in his "Inquiry into the Diseases, etc. of the Indians," on the effects of labor and the hardships of a camp or naval life. He joins Sydenham in strongly commending the exercise of riding on horseback, to be continued on long journeys of from six to twelve months' duration. His partiality for blood-letting in the disease was extreme.

In "Observations on the Cause and Cure of Dropsies," and "An Inquiry into the Cause and Çure of the Internal Dropsy of the Brain," Dr. Rush was among the earliest to show the connection between increased secretion of serum and increased arterial action, and to deduce a means of relief in blood-letting. "Gout" is the theme of another paper, in which the subject is treated with an undue partiality for blood-letting, but also with the characteristic ingenuity and evidences of careful observation. We can merely mention, as other subjects on which he employed his pen, Cholera Infantum, Cynanche Trachealis, Scarlatina Anginosa, Tetanus, Hydrophobia, Worms, Cure of several Diseases by the Extraction of Decayed Teeth, Measles, Influenza, the Result of Observations made upon Diseases which occurred in the Military Hospitals of the United States during the Revolutionary War, and an Account of the External Use of Arsenic in the Cure of Cancers.

Excellent advice, as applicable to the members of the medical profession at the present time as it was on the day of its delivery as a lecture, February 7, 1789, is contained in the "Observations on the Duties of a Physician and the Methods of Improving Medicine, accommodated to the Present State of Society and Manners in the United States." Our practical men, whose reading and range of thought do not go beyond a dispensatory and a hand-book on the practice of physic, would feel bewildered at the very idea of following the recommendation of Dr. Rush, for physicians to study metaphysics, writers on which he names.

"An Inquiry into the Comparative State of Medicine in Philadelphia, between the years 1760 and 1766, and the year 1809," embraces interesting notices of different localities in which fevers appeared, and of the modes of living and dress of the people in the olden time. We are told that "to Dr. Thomas Bond the City of Philadelphia is indebted for the introduction of mercury into general use, in the practice of medicine. He called it emphatically 'a revolutionary remedy,' and prescribed it in all diseases which resisted the common modes of practice." Dr. Rush concludes his retrospect by a notice of the medical opinions then prevailing among the physicians of Philadelphia, and of the causes of the reduced mortality of the city so far below the former proportion.

If we should be accused of lingering too long in our notices of Dr. Rush's mixed medical productions, our answer is that they are all of a liberalizing tendency, abound in valuable information, and are calculated to elicit emulous effects in the same line from others. Besides, to nine-tenths of the profession in the United States the writings of this great man, especially those from which we have culled, are, we fear, unknown.

As the historian of Yellow Fever in Philadelphia, Dr. Rush is better known, and with more vivid remembrance, from the conspicuous part he performed in the trying years of 1793 and 1797. To him, also, are we mainly indebted for what is known of the yellow fever of 1762 in Philadelphia. The greater part of the third and fourth volumes of the "Inquiries and Observations" is taken up with a succession of histories of this disease, which he calls more generally "Bilious Yellow Fever," and sometimes, as in the epidemic of 1797, "Bilious Remitting and Intermittent Yellow Fever." Preceding these histories, their author gives, under the head of "Outlines of the Phenomena of Fever," his theory, which supposes for its cause a convulsive action of the blood-vessels, and especially the arteries. There is, we are told, but one fever, and one exciting cause of fever, and that is stimulus. In his lectures on pathology he had gone still further in asserting the unity of disease. The phenomena of fever are described, but, at the same time, hypothetical explanations are offered for their occurrence, and the reader closes his perusal of the Outlines with a feeling of surprise at the ingenuity of the author and regret at its misapplication and waste on the occasion.

By his History of the Yellow Fever of 1793 and his work on Diseases of the Mind, which we cannot stop now even to analyze, Dr. Rush has acquired a wider reputation in Europe than any other American writer on medicine,—a reputation which no one can legitimately dispute with him, and which appears to be only strengthened with the progress of time.

Contemporary with Dr. Rush, and long his colleague in the University of Pennsylvania, was Dr. Benjamin Smith Barton, who is best known in the annals of medical literature by his work on the collateral science of botany. It is of an elementary cast, written on the basis of the artificial or sexual system of Linnæus, and interspersed with remarks on vegetable physiology, of a desultory nature, indicative of the habits of study of the author, which were in part the result of infirm health. This work, under the title of "Elements of Botany; or, Outlines of the Natural History of Vegetables," etc., appeared in 1803. Dr. Barton's "Contributions for an Essay toward a Materia Medica of the United States" were of an earlier date, in 1801.

The chief contributions to medical literature in Philadelphia during the closing years of the last, and the early ones of the present century, are those which involve inquiries into the origin, pathological characters, and treatment of yellow fever. Of these we may mention the treatises and memoirs of the fever of 1793, 1798, and 1799, and "Facts and Arguments in Favor of the Pestilential or Malignant Yellow Fever," by Dr. Wm. Currie. Also, Facts and Observations on the Origin, Progress, and Nature of the Fever which prevailed in certain parts of the City and Districts of Philadelphia in the summer and autumn of 1802, etc., by Drs. Currie and Cathrall. From Dr. Cathrall we have a memoir on the analysis of the black vomit. Ffirth, author of a "Treatise on Malignant Fever, with an attempt to prove its non-contagiousness," 1804, relates numerous experiments on the subject, made on animals and on his own person. Dr. Charles Caldwell took an active part in the controversial literature of yellow fever, as may be seen by his "Semi-Annual Oration on the Origin of Pestilential Diseases," delivered before the Academy of Medicine of Philadelphia, 17th December, 1798. In the Medical and Physical Memoirs of this writer there is a paper entitled "Facts and Observations Relative to the Origin and Nature of the Yellow Fever," 1801. In the same year appeared his "Address to the Philadelphia Medical Society, on the Analogies between Yellow Fever and true Plague." Of a subsequent date was an "Essay on the Pestilential or Yellow Fever as it Prevailed in Philadelphia in the year 1805," appended to his translation of Alibert on Intermittent Fevers. Of a kindred nature is Dr. Caldwell's "Anniversary Oration on the subject of Quarantine," delivered before the Philadelphia Medical Society, on the 21st January, 1807. Also, "A Reply to Dr. Haygarth's Letter to Dr. Percival on Infectious Fevers," and an "Address to the College of Physicians at Philadelphia, on the Prevention of American Pestilence," etc., 1802. Nor must we omit on this occasion the article on the subject of black vomit, in the New York Medical Repository, by Dr. Physick, who wrote but little, but that little was always to the point.

As we shall not be able, in the space yet left for us, to do more than merely enumerate the titles of the works and the names of the authors that we have yet to notice, in completion of our general sketch of the medical literature of Philadelphia, we may as well continue our references on the subject of yellow fever down to the present time, which places us in the presence of contemporary writers. After the year 1805, the city enjoyed exemption from epidemic visitation of the fever until 1820. The history of this last attack is by Dr. Samuel Jackson, Professor of the Institutes of Medicine in the University of Pennsylvania, who has given a full and interesting "Account of the Yellow or Malignant Fever, which appeared in the City of Philadelphia in the summer and autumn of 1820." This originally appeared in the first and second volumes of Dr. Chapman's Philadelphia Medical and Physical Journal. Dr. R. La Roche has written, in the Charleston Medical Journal, vol. vii., "A Statement of Facts respecting the Mortality occasioned by the Yellow Fever in the City of Philadelphia during the various epidemics from 1699 to 1820," etc.; also, "Facts and Observations on the Origin of Yellow Fever from Local Sources of Infection, as illustrated by Occurrences on Board Ship," American Journal of Medical Sciences, new series, vol. xxv.; "Observations on the Black Vomit, its Nature and Composition," etc., American Journal of Medical Sciences, xxvii.; and "Remarks on the Origin of the Yellow Fever which prevailed in Philadelphia in 1853," Transactions of the College of Physicians, new series, vol. ii. We are indebted, also, to Dr. Wilson Jewell for an account of the "Yellow or Malignant Bilious Fever in the vicinity of South Street Wharfs, Philadelphia, 1853;" likewise observations by the same writer, in Transactions of the College of Physicians. By Dr. John Hastings we have also "Lectures on Yellow Fever, its Causes, Pathology, and Treatment," 1848.

Valuable as are the several papers whose titles we have just given toward a history of the disease by Dr. La Roche, they are but specimens of what he has done in his great work on Yellow Fever, which is one of the most substantial and meritorious contributions to, we will not say merely Philadelphia, but also American medical literature.

The first links connecting Dr. Rush's productions (the last of which bears date in the year 1809) with those of the present day in Philadelphia were a "System of Anatomy for the Use of Students of Medicine," by Dr. Wistar, in 1811, and "Elements of Surgery for the Use of Students," 1808, by Dr. Dorsey. The first of these, in its dullness of style and description, formed a striking contrast with the animation and successful demonstrations of the author in his lecture-room, of which we spoke in a former article. Dr. Dorsey's work was chiefly recommended by its serving as a text-book to the lectures of Dr. Physick, whose opinions and practice it freely detailed: it also introduced to the American student a better knowledge than he could otherwise have gained of French surgery. As a literary composition, the materials of the "Elements" were hastily and crudely put together. What a contrast is offered between this (the first American work on surgery) and the full and comprehensive treatise by Dr. Gross, which has been recently published! The first giving us the doctrines of inflammation inculcated by John Hunter, and the practice of surgery, and excellent it was too, of his celebrated pupil Dr. Physick; the latter spreading before us the broad principles of the science, as resting on chemistry, histology, and pathology, and the curative indications of the art carried out by all the aids furnished by mechanical appliances of every kind, and the most fertile therapeutics.* The other works on surgery will be noticed under the general heading.

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* Leaving for the nonce his impersonality buried in the oracular "we," the writer does not believe that he should be deprived of the privilege of alluding, in favorable terms, to a work because it happens to be by an editor of this journal. The less objection ought there to be to the freedom now claimed, when its exercise is the echo of the critical opinions of competent judges in another hemisphere.

Before naming the productions in the several departments of scientific and practical medicine *seriatim*, we would observe that there is considerable inequality in their relative extent and richness. The genius of Hare suggested some novelties in chemistry, but on this branch Philadelphia cannot lay any claim to precedence over her neighbors. Nor has physiology been progressive in this city, although ingenious experiments have been made by Drs. Joseph Klapp and Rousseau on cutaneous absorption, and by Drs. Harlan, B. H. Coates, and Lawrence on venous and lymphatic absorption. In the same line ought to be placed the inaugural thesis of Dr. Robert E. Rogers, now professor of chemistry in the medical department of the University of Pennsylvania, and the papers by Dr. J. K. Mitchell on the Penetrativeness of Fluids, originally published in the *Am. Jour. Med. Sciences.* The most original treatise, having a collateral bearing on physiology, is the "Philosophy of the Human Voice," by Dr. James Rush.

But although Philadelphia cannot offer any work on physiology with the same type of originality as the treatises of Draper and Dalton, she can point to investigations amounting to discoveries in histogeny of a basic character, on which our knowledge of function must ultimately rest, made at various times by Dr. Leidy, Professor of Anatomy in the University of Pennsylvania. We have not the time to search out, in the different journals, his valuable contributions in this line, which have already won him a truly European reputation, as our French friends term it. Of a similar tendency are his numerous contributions to comparative anatomy and the study of fossil remains or palæontology, in the Transactions of the Academy of Natural Sciences of Philadelphia, and the publications of the Smithsonian Institute.

In some departments of medical literature, the productions of Philadelphia authors are of such a stamp as give them a weight and predominance, which are admitted without dispute in other quarters. Of these we may specify in medical lexicography, Dr. Dunglison's Dictionary; in Materia Medica and Pharmacy combined, the Dispensatory of the United States, by Drs. Wood and Bache; in Medical and Dietetical Hydrology, the Treatise on Baths, etc., by Dr. Bell; and in Ethnology, the unique works of Dr. Morton on the *Crania Americana*, and *Egyptian Ethnography.* High in rank also are the treatises on Midwifery by Drs. Dewees and Charles D. Meigs. Distinctive notice has been already taken of Dr. La Roche's Treatise on Yellow Fever.

The original works of Philadelphia authors are the following:—

Anatomy.—Wistar, (with additions by Pancoast,) Horner; same, United States Dissector; Morton, Illustrated Anatomy; Smith and Horner, Anatomical Atlas; Allen, Practical Anatomy; Neill, Outlines of the Arteries, Nerves, and Veins, with plates; Goddard, the Nerves and Arteries, with plates; Bryant, Anatomical Examinations; Darrach, Anatomical Drawings of the Groin; Agnew, Practical Anatomy; Godman, Anatomical Investigations; Gross on the Bones, etc.

Physiology.—Dunglison, Human; Reese, Analysis; Rush, (James,) Philosophy of the Human Voice; Morton, Crania Americana; Caldwell, The Variety, Complexion, and Figure of the Human Species.

Hygiene.—Dunglison, Human Health; Bell, Regimen and Longevity; Health and Beauty; Condie, Catechism of Health; Journal of Health, four years edited and mainly written by Bell and Condie.

Materia Medica and Therapeutics.—Barton, (Benjamin Smith,) Contributions to Materia Medica of the United States; Chapman, Eberle, Dunglison, New Remedies; T. D. Mitchell; Biddle, Review of Materia Medica; Bell, Dictionary of; same, Baths and Mineral Waters; same, Baths and the Watery Regimen; same, Mineral and Thermal Springs of the United States.

Materia Medica and Pharmacy.—Coxe, American Dispensatory; Wood and Bache, United States Dispensatory; Carson, Synopsis; Griffith, (R. E.,) Universal Formulary; Ellis, Medical Formulary; Wood, Materia Medica and Pharmacology; Reese, American Medical Formulary; Parrish, (Edward,) Introduction to Practical Pharmacy; United States Pharmacopœia.

Medical Botany.—Barton, (William P. C.,) Carson, Griffith.

Chemistry.—Bache, Hare, Gardener, Medical; Rand, Medical; Booth and Morfit, Encyclopedia of; Murphy, a Review of, for students.

Pathological Anatomy.—Horner, Gross.

Pathology and Therapeutics.—Rush, Medical Inquiries and Observations; La Roche, Yellow Fever; same, Pneumonia and Malaria; Bell and Condie, Epidemic Cholera; same, Influenza; Gross, Diseases, Injuries, and Malformations of the Urinary Bladder, etc.; Chapman, Diseases of the Thoracic and Abdominal Viscera; same, Eruptive Fevers, Hemorrhage, etc; same, Compendium of Lectures, arranged by Benedict; Morton, Consumption; Jackson, Principles of Medicine; Rush, Diseases of the Mind; Mitchell, (J. K.,) the Cryptogamous or Fungoid Origin of Fever; Gerhard, the Chest; Horner's (G. R. B.) Naval Practice; Stillé, (Alfred,) Elements of Pathology;* Hasting's Yellow Fever; Morris, Caspar, Lectures on Scarlet Fever; Clymer, Fevers.

Practice of Medicine: Systematic Works.—Dewees, Eberle, Bell, Dunglison, Wood. *Clinical Medicine:* Gerhard.

Surgery.—Text-Books: Dorsey; Gibson. Operative: Pancoast.

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* Dr. Stillé's recent work on "Therapeutics and Materia Medica" will engage our attention at an early day.

Minor: Smith, (H. H.) Bandaging and other Operations of Minor Surgery: Sargent; Hastings. Ophthalmic: Littell. Strangulated Hernia: Parrish, (Joseph,) McClellan, (George.) Foreign Bodies in the Air-Passages: Gross. Nature and Treatment of Wounds in the Intestines: same. Treatise on the Urinary Organs: same. Hernia: Bryan. Dental: Fitch, Goddard, and Parker.

Midwifery.—Dewees, Meigs, (Charles D.,) Tucker; Warrington, Obstetric Catechism.

Diseases of Females.—Dewees, Meigs, (Charles D.;) the same on Diseases of the Uterus; same, on Childbed Fever; Dewees, Essays.

Diseases of Children.—Dewees, Condie, Meigs, (Charles D.,) Meigs, (John Forsyth,) Eberle, and T. D. Mitchell.

Medical Jurisprudence.—Wharton and Stillé.

Toxicology.—Griffith, (R. E.,) Poisons; Costill, Poisons.

Dictionaries and Compendiums.—Dunglison, Medical Lexicon; Cyclopedia of Medicine and Surgery, (Hays, editor;) Ludlow, Manual of Examinations; Neill and Smith, (F. G.,) Analytical Compendium of the Various Branches of Medical Science.

Climatology and Medical Topography.—Horner, (G. R. B.,) Observations on the Mediterranean, Spain, and Portugal; the same, Brazil and Uruguay; Forrey, on the Climate of the United States.

Domestic Medicine.—Coates, (Reynell,) Popular Medicine; Smith, (F. G.)

Kirkbride, Hospitals for the Insane.

Wood, Introductory Lectures and Addresses.

We have a list of the works published in Philadelphia, with annotations and additions by physicians of that city, but we are obliged to withhold it for want of room. Dr. Rush set the example of this fashion of the literary introduction of English authors to American readers. In doing so he selected recognized medical classics, viz.: Sydenham, Hillary on the Climate and Diseases of Barbadoes, Cleghorn on the Diseases of Minorca, and Pringle on the Diseases of the Army—thus procuring currency for valuable works, which, without his recommendation, would not have appeared at all.

Of almost equal number and variety of subjects are Philadelphia translations from the works of continental Europe: these are chiefly from the French. Their enumeration is prevented at this time for the reason already assigned in relation to annotated works. So, *a fortiori*, must be our silence on the list of medical works in Philadelphia republished without additions. Our lists of those three several classes number respectively 81, 39, and 241. To these may be added 30 by American authors at a distance, which were published in Philadelphia, making altogether 391, or nearly 400 separate works, the greater number of which have been brought out in the last forty years.

Periodical publication is an important feature in the medical literature of Philadelphia. For some time New York was in advance in this particular. The *New York Medical Repository* was continued from 1796 to 1822, and in that period was the recipient of a large body of valuable matter. We have not had time to engage in very minute research; but we believe that our first medical journal in Philadelphia was begun in 1804, by Dr. B. S. Barton, under the title of the *Medical and Physical Journal.* It was continued for five years, and made three volumes. Dr. John Redman Coxe originated and edited the *Medical Museum,* in six volumes, from 1805 to 1810, and one volume, new series, 1811. The next journal was the *Eclectic Repertory and Analytical Review,* by a society of physicians, represented by Drs. Otto, Hewson, and James; continued from 1811 to 1820, in ten volumes. The *Journal of Foreign Medical Literature and Science* was edited at first by Drs. Emlen and Price, for 1821 and 1822, and afterwards one volume, by Dr. Emlen, the fourth by Dr. Godman, and three subsequently by Dr. Littell. The *Medical Recorder* ran from 1818 to 1829, under different editors, of whom the chief were Drs. Eberle, George McClellan, Remington, and Calhoun. Dr. Chapman originated the *Medical and Physical Journal* in 1820. It was continued under this title until 1827; during the latter part of the time, with the assistance, at first, of Dr. Dewees, and then of Dr. Godman, and lastly of Dr. Hays. In 1827 the title of the periodical was changed to that of the *American Journal of Medical Sciences;* and on the withdrawal of Drs. Chapman and Dewees, it was placed under the charge of Dr. Hays, who has been its constant and judicious editorial guide down to the present time. Its companion, the *Medical News,* appears monthly, and has appended to it a literary department on a small scale, containing works of a standard character. The example of a more enlarged plan of conducting a medical periodical was first given by the *North American Medical and Surgical Journal,* under the direction of an editorial committee, consisting of Drs. Hodge, Meigs, Coates, Bache, and La Roche, appointed for the purpose by the Kappa Lambda Society of Philadelphia. This journal, begun in 1826, lasted until 1832; furnishing to its readers twelve volumes of matter, which obtained for it, at the time, considerable reputation. In the last two years, or from 1830 to 1832, the names of Drs. Bell, Condie, and Wood were added to the editorial corps.

The *Medical Review and Analytical Journal,* during its brief existence of three years, from 1824 to 1826, both inclusive, was edited by

Drs. Eberle and McClellan. The next journal in the order of time is the *Philadelphia Medical Examiner.* It was first issued semi-monthly, in January, 1838, under the editorial direction of Drs. Biddle and Clymer; Dr. Gerhard was also, for awhile, associate editor, as he had been previously a contributor, by furnishing valuable material for medical clinics, the reporting of which was for some years a leading feature of the *Examiner.* It assumed a monthly shape in 184–, and for a time was edited solely by Dr. Clymer; afterwards by Dr. R. M. Huston; then by Dr. F. G. Smith; by Drs. Smith and Biddle, and eventually by Dr. Hollingsworth. In 1856 the *Medical Examiner* was united to the *Louisville Medical Journal and Review*, the publication of which had been transferred to Philadelphia, and in January, 1857, the united journals were brought out as a unit under the title of the *North American Medico-Chirurgical Review*, with Drs. S. D. Gross and T. G. Richardson for its editors, with whom is now associated Dr. S. W. Gross. Last in the list is the *Medical and Surgical Reporter*, a weekly journal, under the editorial direction of Drs. S. W. Butler and R. J. Levis.

For some years Drs. Dunglison and Bell were editors of medical periodicals, which exerted a beneficial effect on the medical mind of the country. That under Dr. Dunglison's charge was the *American Intelligencer and American Medical Library*—the first part a medical journal, the second consisting of volumes selected by the editor. The *Library* was continued from 1837 to 1842; it was sent out with the *Intelligencer* by mail. The other, under the direction and supervision of Dr. Bell, was the *Eclectic Journal of Medicine*, and afterwards the *Bulletin of Medical Science*, accompanied also by a volume chosen and sometimes annotated by the editor. This was continued for upwards of ten years, or from 1836 to 1846. The circulation of so many medical works by means of the "Libraries," undoubtedly served to awaken a taste for reading and study among physicians living remote from the cities. The *Esculapian Register*, a journal of a mixed character, was published for awhile under the direction of Dr. J. R. Coxe. *The Journal of Health*, edited by Drs. Bell and Condie, had a wide circulation during the four years of its publication, from 1829 to 1833.

The Transactions of the College of Physicians come within the scope of our present record. The first volume appeared in 1793. A long interval was allowed to elapse from that time to 1841, when the printing of the transactions was resumed. Since then several volumes have appeared. They contain some good papers and records of conversation among the "Fellows," which are not wanting in practical value; but, as a whole, they do not give reputation to the College. Of the Transactions of the Pathological Society, the work chiefly of young men, we spoke, on a former occasion, in terms of deserved praise.

The influence of the medical schools on the medical literature of Philadelphia has been of a very decided kind, and is manifested as well in that which has been developed as in that which has not been cultivated by these institutions. The blanks left by them in medical instruction have not been filled up, or their omissions have been imperfectly supplied by the labors of authors out of the privileged corporate circle. The Institutes of Medicine, in their entireness, commanded more attention from Dr. Rush than they have since. In most of the schools they are now represented by physiology alone, to the neglect of pathology and hygiene, to say nothing of therapeutics; and hence we have no work on this entire branch, although there are not wanting treatises on its subdivisions just named. The country, for a long time, had to look for a knowledge of medical jurisprudence to the great work of the Becks; and it is only within the last few years that Philadelphia has offered an original one in that of Wharton and Stillé. In the field of general medical literature, consisting of the history of medicine and of medical schools and doctrines, with critical commentaries on the causes and effects of the successive revolutions in medical creeds and practice, Philadelphia has had no systematic or distinguished cultivators. Equal poverty is exhibited in the very attractive department of medical biography. Le Clerc, Freind, Hamilton, and Sprengel have not found either editor or publisher. The same may be said of the "Biographia Medica" of Hutchinson, and nobody among us has had the courage to attempt to continue the "Medical Bibliography" of Staff-surgeon Atkinson. We are ourselves obliged often to refer to the *Dictionnaire Historique de la Médécine* for information relating to the lives and works of eminent, and some who are not eminent, English writers. For the English translation of Reynouard's *Histoire de la Médécine*, the profession is indebted to an intelligent young physician, Dr. Comegys, of Cincinnati.

ART. II.—*A System of Dental Surgery.* By JOHN TOMES, F.R.S., Dentist to the Dental Hospital of London, and to the Middlesex Hospital. With Two Hundred and Seven Illustrations. Philadelphia: Lindsay & Blakiston, 1859. 8vo., pp. 668.

A Practical Treatise on Operative Dentistry. By J. TAFT, Professor of Operative Dentistry in the Ohio College of Dental Surgery. With Eighty Illustrations. Philadelphia: Lindsay & Blakiston, 1859. 8vo., pp. 378.

CONSCIOUS of the great void in dental literature, and especially in the department proper, of which the first work professes to teach, we were pleased to hear of its forthcoming. The character that Mr. Tomes had established for himself in the publication of his "Course of Lectures on Dental Physiology and Surgery," delivered at the Middlesex Hospital School of Medicine, was a sufficient guarantee to us of the value of the expected addition to our literature.

For a quarter of a century the author has been stimulated in his investigations by the equally intelligent and persevering researches of an Owen and a Nasmyth, and the valuable contributions which he and his colaborers have made to science have long since been acknowledged. Appreciating as fully as any one the value of the minute study of all things pertaining to a science such as that of dentistry, we fear that the tyro and those for whom text-books are required, will not reap the same advantage from this treatise that they would have done had the author made it less microscopic in its character and endeavored to impart to it more of what it purports to be—a system of dental surgery. It is true, the entire science of dentistry is denominated the science of dental surgery, even that part which is evidently mechanical, and which treats of filling teeth; but we think the time has arrived when an entire separation of the different branches is required, so that they may be more fully and ably taught. It is so in the science of medicine, and with equal propriety ought to be in dentistry.

In the work under consideration two hundred and eighty pages are devoted to an examination of the different periods and conditions of teething, and while there are in these pages comparatively few points wherein we are disposed to differ from the author, we regret to see so much of a book, containing in the whole only six hundred and sixty-eight pages, taken up by matter so far foreign to the subject. Admitting the necessity of a proper understanding of everything that pertains to a science, by those who fain would enter its portals, we heartily commend the zeal and industry of those who, aided by all the inventions that art has produced, have "grown pale by the midnight lamp," in their desire to expose to light, in their day and generation, those things which so long have been hidden from man. And while we are disposed to hoard up and keep in their proper places all such revelations, we desire to see the day when the science of dentistry shall have a reliable literature, wherein each department shall be separately treated and plainly taught.

There is a small portion of matter included under the head of "teething" that we are disposed to screen from the charge of intrusion, as the subjects treated properly belong to a system of dental surgery; we mean that part which relates to the *abnormal* conditions of the teeth and the dental arch, and the irregular eruption of the teeth; and of this we are happy to say that the author has fully demonstrated the fact that serious disease, as well as great deformity, is often induced by the irregularity of the teeth, both before and after their entire eruption.

The portion of the work devoted to "the dental tissues" is very good, and a perfect understanding of it very essential to a correct treatment of these tissues when diseased; but as the dental tissues can only be considered in a pathological point of view, in a work of this character we would expunge, or, rather, place in their proper departments, these together with all other matters that take a different direction from the subject under consideration.

The article on "caries" is valuable, logical, and scientific, and recommends itself to the careful study of all who wish to make themselves acquainted with a subject that has been "a bone of contention" for years. The rules laid down for the treatment of caries are such as no one can object to, and it were well were they properly understood by all. The instruments recommended for, as well as the materials used in, filling, are such as are found in the hands of the well-informed dentists of our own country.

To the remainder of the work we could cheerfully annex our sign-manual, as we feel that its efforts are in the proper direction; and while we heartily commend the entire work to the kind consideration of the profession, conscious that its influence will be greatly felt, we must confess that we sincerely regret that Mr. Tomes did not furnish to us that which we so much need, a *complete* system of dental surgery. The distinguished author, it is but justice to add, has supplied us with a model of composition at once pure, chaste, and classical; and in taking leave of him, we beg to declare that he has supplied us with one of the most readable scientific books in the English language. The engravings are nearly all admirable, and greatly enhance the value of the work.

The work of Professor Taft, unlike the one above noticed, is strictly confined to the subject which it professes to teach; and, were it not for certain defects, which we regret to say are both of a scientific and literary character, we should hail its advent as one calculated to add much to our literature, and as initiatory of a system much needed.

As this is an American publication, we notice these defects with regret, and our mortification is increased by a knowledge of the fact that it is not through ignorance of the author that these objectionable points present themselves, but rather because of a want of caution and reconsideration.

The author's character as an operator, and as one anxious for the advancement of his profession, is second to none, and being fully competent to the task he undertook, we would much prefer to be able to give to this volume such a welcome as would be gratifying to all concerned; but an honest sense of duty to science bids us lay aside all personal feelings, and to regard not individuals, but treat that which is presented for the consideration of a liberal profession upon its own intrinsic merit.

A desire to prepare manuscripts for publication within a given time, in compliance with the wishes of publishers, should never induce an author to be precipitate, and thereby place in jeopardy his reputation. We do not pretend to say that this was the case in this instance, but certain it is that, by some cause or other, the work appeared prematurely, and while a little more care might have made it all that could be desired, it can now only be considered as a primary work for students, containing much that will be of value, together with some things that might lead them into error.

Lest we should be deemed unjust in our remarks, and charged with making assertions without foundation, we will cite a few instances wherein we consider it defective.

At page 55 the author states that "the teeth cannot, with impunity, undergo sudden transitions from one extreme of temperature to another, *or even such extremes as may be endured by the surrounding parts.* By these *inflammation of the dentine* may be induced and the vitality of the teeth diminished, *so that even in friable teeth* checking of the enamel will occur, and thus a condition arise that will facilitate decay."

We unhesitatingly declare that this position cannot be sustained. Teeth have been subjected to the most severe tests, as far as the transition from one extreme of temperature to another is concerned, and nothing has been elicited that would at all substantiate the above theory. Again, such a condition as "*inflammation of the dentine*" has never been satisfactorily demonstrated; nay, the possibility of its existence is even boldly denied by very good authority.

Another point in this paragraph, and we have done with it: "so that even in *friable* teeth checking of the enamel will occur." Will not the student ask why the author says "*even in friable teeth,*" etc., when he could have established his doctrine much better by proving that even the most *resisting* teeth are broken?

At page 72 we find the orthodox doctrine set forth, that "the filling of the teeth is predicated upon the nature of decay, upon the fact that the lost portion will not be restored by nature, and upon the fact that caries is an effect of external causes, and not of any cause within the tooth itself." This is all very well; but if external causes alone produce decay, why speak of inflammation of the dentine, as in the above connection?

Two of the most glaring oversights of the author, to which our atten-has been directed, occur, the one at the bottom of page 89, the other on page 218. In the first he is made to say, whether through the treachery of printer's ink or otherwise, we are unable to determine, that "amalgam fillings in a short time after their insertion undergo a hardening process, *caused mainly by evaporation of the mercury.* The consequence is, either that the mass becomes porous, or that it contracts; the former, doubtless, in cases where the oxydation blackens through, and the latter, where it is confined to the surface."

That amalgam fillings harden, we do not deny, but that this process is brought about by the "evaporation of the mercury" we do most unhesitatingly dispute. When two or more metals unite, forming an amalgam, they no longer preserve their distinguishing characteristics, but form a new compound, which is solidified by *crystallization,* as is demonstrated by the heat evolved during solidification and the crystalline appearance when fractured. As the amalgam is rendered hard very soon after its insertion the *evaporation of the mercury,* did it even occur, could not cause the filling to contract; and if it is by this means that the filling is rendered porous, would it not crumble at once? On the other page referred to, the author would appear to consider *arsenious acid* as a substance possessing *vitality.* In speaking of its escharotic properties, after referring to the views of Professor Bache and Dr. Pereira on this subject, he says that "*its escharotic power certainly bears no proportion to its vitality;* but it is probable that it forms definite compounds with some of the constituents of living tissue; and if so, these compounds appear to be readily and rapidly decomposed, so that the acid becomes again *free* to attack, with similar results, the subjacent parts."

While the first proposition is certainly not in accordance with the teachings of chemistry, which recognizes arsenious acid as an oxyd of an elementary substance, inorganic, and *non-vitalized,* the last may be considered as one of its nice theories, which it would be more difficult to demonstrate than to force upon the minds even of the credulous.

Chapter fourth, devoted to instruments for filling, is finely illustrated with valuable representations, and is calculated to give to the student, and even to the practitioner whose views are antiquated, a correct idea of such instruments as will be almost indispensable to him. Directions are also given as to the proper mode of manufacturing instruments; this is important, as no author is able to present all the forms and varieties that are in use, or that the peculiar taste or mode of operating of each individual may require.

We trust that what we have said in regard to the above works will not be attributed to a spirit of fault-finding. In reference to the last noticed, we are fully aware that there are few inaccuracies that would not have been discovered by its author had he examined it a little more carefully, and while we look upon book-reviews as calculated to stimulate future authors to greater watchfulness, rather than to condemn works already written, we trust that none may be deterred from contributing their part toward establishing a reliable literature, and that all will feel the responsibility of the position they occupy in the profession.

It is not possible for any writer to produce a work that may not be objected to by some one; and while our constant aim should be to present our ideas in a form that would be least objectionable, the fact that the products of our labors may be roughly handled by the critics should not prevent us from making the effort.

The mechanical execution of both of these books is unexceptionable, and reflects great credit upon the Philadelphia publishers.

As the science of dentistry has at last reached that culminating point from which it is able to maintain its position among the learned professions, we shall append a short history of its progress in the United States.

Although our country cannot boast of having given birth to the science, her sons at least have the credit of having brought it to its present state of perfection; and could our laws afford a little more protection against the inroads of quacks, the time would not be far distant when the escutcheon of dentistry would be as unblemished as that of any known science. It is only in reputation that the profession is injured by these arrant impostors who infest the country; for while their bad deeds bring into discredit that which time has proven to be a *true* science, these same cases of malpractice require competent hands to supply a remedy. The efforts now made by those who have a sincere love for their profession, although unaided by legal patronage, and prompted by the purest motives, are slowly but surely bringing about the anxiously expected period when the grim visage of the vile pretender — sometimes concealed behind the bland countenance of the apparent gentleman — shall show forth so plainly that none may be deceived: a change effected not by oppressive persecution, but by an onward, upright discharge of duty.

That the dental art has made more rapid advances in this country than elsewhere, is admitted by all; even our ever-ambitious and scientific brethren in England give us the credit of pushing onward and upward, with energetic hands, the standard of the dental profession. They attribute our success in some measure to the native energy of character for which Brother Jonathan is so renowned, but at the same time acknowledge the influence of the abolition of those small jealousies and invidious distinctions with reference to less fortunate brother practitioners, which allows a free communication of ideas among the members of the profession, and which has been operative in the production of associations whose objects are to cultivate the science of dentistry and all its collateral branches, to elevate and sustain the professional character of dentists, and to promote among them mutual improvement, social intercourse, and good feeling.

Although the profession here has been diligent in this particular, there has been as yet very little done toward the production of a literature such as the rapid march of dentistry would indicate, and such as is absolutely required.

Before referring to the long list of books that have been brought before the public, some of them with no other evident object than to introduce their authors into notice, we shall take a glance at the early age of dental surgery; and, if time and space would permit, we think we could show that, notwithstanding its present extended and rapidly enlarging proportions, it has not "grown too quickly great to grow well."

As early as the time of Hippocrates, we meet with distinct notices of the diseases of the teeth. In the sarcophagi of the Egyptians rudely manufactured teeth have been discovered; and proof of the fact that gold had been made use of as a stopping for cavities, has been obtained by the examination of some mummies from Thebes. Historical evidence is also abundant that the general appearance of the teeth and their diseases attracted considerable attention among the Greeks and Romans.

The first work specially devoted to the dental art was written by Guantier Henry Ryff, in the year 1548. From the writings of Martial, Catullus, Lucian, and Pliny, we may infer that that branch of the science designated as mechanical dentistry was not unknown to the ancients; for, although no mention is made of the replacement of the natural teeth by artificial ones by the Greek and Roman scientific writers, there is no doubt that at the period they wrote, and for a considerable time previously, this branch was extensively practiced at Athens and at Rome.

The following quotations from Martial leave no doubt that the Romans used artificial teeth:—

> "Sic dentata sibi videtur Œgle
> Emptis ossibus, Indicoque cornu."—*Martial*, lib. i. 72.
>
> "Thais habet nigros, nivios Lecania dentes,
> Quæ ratio est? emptos hæc, habet, illa suos."—*Martial*, lib. v. 44.

As a notice of the progress of the science of dentistry in our own country will be of more interest to our readers than a review of its struggles in the darker ages, we shall take up for consideration, in the first place, that part of the profession which, while it enables the operator to display his handiwork, and is of marked benefit to those who have been deprived of their teeth, is nevertheless regarded by many of minor importance to that branch which rescues from destruction organs which man, with all the aid that science can afford, can never replace.

We do not wish to be understood as intending to cast odium upon the mechanical department of the science,—for we are of the opinion that it requires as thorough an education of the head as well as the hands to make a good *mechanical dentist*, as to qualify one to perform operations upon the living teeth; but, while we admire the exquisite degree of perfection to which this branch has been brought, we fear that too great reliance is placed upon the powers of man to imitate the Creator, and many valuable teeth are sacrificed, or allowed to go to destruction, that might have been rendered useful by the skillful manipulations of a surgeon-dentist. And while we admit that clear-sighted, energetic, mechanical dentists have rather outstripped those in the other branch in the race of improvement, we can not lose sight of the fact that within the present century dental surgery has become so nearly a perfect science that those who have been fully initiated can confidently promise entire success for all their operations. The microscope has thrown so much light upon the study of the pathological and physiological conditions of the teeth, and the improvements in material for filling, and in instruments for the proper performance of all the operations upon these organs have been so great, that it would appear that little remains to be done in this direction.

It is said that the first set of artificial teeth ever worn in this country was made in Paris, and was in possession of Aaron Burr.

The manufacture of porcelain teeth is modern in its origin. Originally natural or human teeth were used; also calves' and sheep teeth; next ivory, or teeth carved from the tusk of the hippopotamus. Fifty years ago there was not a porcelain tooth made in this country. Twenty years ago not more than two hundred and fifty thousand were manufactured annually in the United States, and but a trifling number in Europe. Since then the demand has been continually increasing, owing in a great measure to the rapid improvements made from year to year, and the more perfect applicability to the purposes designed; and within the last eight years, it is said the consumption has increased one hundred per cent.

Philadelphia was the first and original seat of the manufacture of porcelain teeth in the United States; and over one-half, if not two-thirds of all the teeth now made in this country, are made in Philadelphia. One firm, that of Jones, White & McCurdy, 528 Arch Street, make annually about 1,250,000 porcelain teeth. Their products are exported to Europe, South America, the West Indies; and in all the markets they take precedence over the European manufacture. * * * * * The statistics of the manufacture of porcelain teeth, as furnished to us, are as follows:—

Number of establishments - - - - - -	5
Capital invested - - - - - - - -	$ 175,000
Persons employed, one-half females - - - -	125
Value of production annually* - - - - -	$ 500,000

The facts in relation to the superiority of the porcelain teeth of American manufacture still hold good, and the establishment in this city, which has won for itself such a wide-spread reputation, through the skill, enterprise, public spirit, and gentlemanly deportment of the proprietors, still exists.

The number of establishments for the manufacture of teeth is the same as when the above was written, but the capital invested at this time is not less than $300,000. The number of persons employed is about 175, and the value of the annual production about $750,000.

Although mineral teeth were introduced into this country early in the present century, and some experiments made in their manufacture about the year 1825 or 1826, all who are at all acquainted with the profession prior to the year 1831 will remember that the teeth made, up to that time, were of an opake clay body, and more after the appearance of split beans, both in color and shape, than anything else they could be compared to; this was especially true of the French teeth.

The experiments made at that time, in this city, were conducted by Messrs. Joseph E. McIlhenny, Charles Peal, the artist, then in his eightieth year, and Mr. Plantou the elder. Dr. Hudson, who then had the most extensive practice in Philadelphia, depended upon teeth of French manufacture, which, although very rough, were rather better than those made in this country.

The difficulties encountered by the above-named experimenters were sufficient to cause many of the present day to abandon as hopeless any similar undertaking; being entirely unaided in their efforts, both as regards modes of manipulation and localities from whence to procure their materials, their progress was necessarily slow; and, when viewing the results of their labors with a second sober thought, it ought not be a matter of so great gratulation that operations can now be performed with so much perfection, knowing that we reap that which was sown in vexation and disappointment by those who preceded us.

Notwithstanding the French were the first to introduce porcelain teeth to the profession, the sequel has shown that they have not kept up with the times in improvement, both in that direction and also in the surgical and operative departments; for we of "the land of sober thoughts and quick invention," have, by taking advantage of their masterly inactivity, been able to carry our reputation into their very capital, and from thence entirely over Europe.

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* Philadelphia and its Manufactures, pp. 398 and 399; 1858.

The superiority of the operations of American dentists over all others has been acknowledged by the crowned heads of the Old World, and the fact that students cross the Atlantic, yearly, in order to receive instructions at our colleges, is ample evidence that we possess *character* as well as reputation.

It were useless to consider in detail the numerous modes of constructing artificial dentures, and to examine the many and complete contrivances for the correction of irregularities; suffice it to say, that, notwithstanding the yearly additions that are made in the way of invention, the general principles that govern the actions of the educated remain the same, and it is because of these fixed principles that improvements are made.

In the operative department, the laws of physiology and pathology govern all those who operate for the patient's good, as well as their own emolument.

The careful study of the minute structure of the teeth is so strongly impressed upon the student, that all who enter the profession through legitimate channels are able to proceed understandingly.

The material now used for filling teeth is principally gold, and the article of gold-foil manufactured in this country equals, if not surpasses, that of foreign make. The amount of gold consumed in this way, and in the form of plates as bases upon which to fix artificial teeth, is almost beyond conception. One firm alone, in this city, that of Charles Abbey & Sons, 228 and 230 Pear Street, the senior partner of which is the original manufacturer of gold-foil for dentists' use, in this country, consumes an immense amount. These gentlemen refine all of their gold themselves, and we are credibly informed that they melt from $5000 to $8000 at a time.

It was through the persuasion of the distinguished Dr. Hudson that Mr. Abbey was first induced, about the year 1817 or 1818, to manufacture dentists' foil; prior to that time he was engaged in the manufacture of gold-leaf for gilders' purposes. The principal dentists then in this city were Hudson, Harrington, Gardett, and Gilliams; these have all left for themselves imperishable names as operators, although they labored under countless difficulties.

About the year 1829 or 1830, so great was the increased demand for gold-foil that Mr. Abbey abandoned the manufacture of gold-leaf, and from that time to this the foil of his make has been in great request. The reputation that he acquired in the days of Hudson and his compeers has not been in the least diminished, nor is it likely soon to be; for we can confidently say of the present firm, that, combined with undoubted skill as manufacturers, they possess that which is of equal value to those engaged in a business such as theirs, an umblemished reputation for integrity.

From reliable statistics we are enabled to compute the amount of gold consumed by the dental profession in this country at about *two and a half millions of dollars* annually. This, we think, is an under-estimate, and is allowing for all that would be likely to come back to be reworked.

We agree with the editor of a late number of a dental journal, that there is some ground for the idea "that the mines of gold, a century hence, will be sought for in the cemeteries of the old cities, where it has been geologically deposited under the industry of dentists."

The number of dentists now practicing in the United States, as nearly as we can ascertain, is about five thousand, which would give—computing our population at only twenty-five millions—one dentist to every five thousand inhabitants; and as many of these belong to the unfortunate class who possess "skulls that cannot teach and will not learn," it will be seen that there is ample room in the profession for all those who will fully equip themselves for the responsible position, and foster the commendable ambition to be foremost in the ranks.

This fact should encourage many young medical men, who have waited in vain for employment, to acquaint themselves with the science, and while they are acquiring an honorable competency, aid in driving from a rapidly advancing profession those who are unworthy of its honors and benefits. Men possessing a sound medical education are wanted in the dental ranks; without a fair acquaintance with anatomy, physiology, materia medica, chemistry, surgery, and therapeutics, *no man can be an accomplished dentist;* he cannot meet all the exigencies of his position, and perform with safety its highest duties, much less can he advance the science toward that excellence which it still demands from its disciples. It is true, we now have in this country three flourishing colleges, wherein a thorough dental education is imparted; but none are so ripe for the highest honors as those who have first had a careful medical training. Among the schools which now exist, the Baltimore College holds the rank of pioneer, the Ohio College comes next, and the one which is located in this city—the centre of medical learning in this country—although last in entering the lists, is not least in its efforts to merit the confidence of the public, by sending out only those who are qualified and true to their calling.

Among the alumni of these institutions may be found those who have arrived at distinction in the profession, both by the superiority of their operations and their valuable contributions to the journals,—of which, we are proud to say, we have a number that are in a measure supplying the great want, as far as the right kind of books is concerned.

The colleges, although not supported as they should be, are steadily growing into notice and reputation; those who have gone forth from their walls have demonstrated so fully the benefits they have derived, that many who have long been connected with the profession in an illegitimate way are now seeking admittance through the schools, as the most direct channels to successful business. Some who are at first attracted by the honors of the doctorate, enter in order to obtain that, but they are very soon made sensible of the fact that there is more to be obtained than a title, and by attention to the instructions imparted they become all that could be desired.

Of the periodicals to which we have referred, the *American Journal of the Dental Sciences*, which made its appearance in June, 1839, and was originally conducted by E. Parmly, E. Baker, and Solyman Brown, as publishing committee, and during the first year of its progress under the editorial charge of E. Parmly, of New York, and C. A. Harris, of Baltimore, in which city it was printed, is the oldest dental journal now issued. During the first year of its existence it was issued with some irregularity, in monthly numbers, at three dollars annually. At the close of the year it became the property of the American Society of Dental Surgeons, then just organized. The title was changed to that of the *American Journal and Library of Dental Sciences;* it was issued quarterly instead of monthly, and the subscription price was increased to five dollars. The Society placed it in charge of C. A. Harris, of Baltimore, and Solyman Brown, of New York, who were to be assisted by a regular corps of contributors. From that period to August, 1850, the journal continued to be issued under the auspices of the Society, under the charge of several editors, appointed annually by the Association. At the meeting of the Society in 1850, it was transferred to Professor C. A. Harris, of Baltimore, and it is now a private enterprise.

That this journal has done good service to the profession, all are free to admit; and we think that, together with two or three other periodicals of more recent date, it has done more to disseminate sound knowledge among the members of the profession than nearly all the "Popular Treatises" on dental subjects that have made their appearance, many of them unfortunately merely as advertising mediums for their authors. Two other journals which appeared about the same time, in the year 1847, the *Dental Register of the West*, issued quarterly, and published under the auspices of the "Mississippi Valley Association of Dental Surgeons," and the *Dental News Letter*, published quarterly by Jones, White & McCurdy, Philadelphia, have contributed greatly to the diffusion of information.

The former still exists, but has become the property of J. T. Toland, Cincinnati, Ohio, and is ably edited by J. Taft and George Watt; it is also changed from a quarterly to a monthly; and by the racy style of its editorials, and the valuable information diffused through its pages, it is rapidly gaining in favor. We would suggest, however, to the editors of this journal,—if our advice is of any value,—the total exclusion of undignified articles, similar to that under the caption of "D. M. C.'s Reply," etc., in a late number. We are not disposed to tie down journals, although they profess to be scientific in their character, to the staid forms represented by those conducted by theological professors, but we do think that *morality* alone should demand the suppression of articles such as the one above referred to.

The *Dental News Letter* continued its existence up to August, 1859, and during all that time was ably conducted by Drs. White and McCurdy; with the exception of the occasional admission into its pages of personal and unprofessional articles, its entire career was one of marked success. We are happy to state that during the latter part of its existence the objections above referred to did not occur. On the 1st of August, 1859, the *Dental Cosmos,* a monthly journal, published by Jones & White, Philadelphia, and edited by J. D. White, D.D.S., J. H. McQuillen, D.D.S., and Geo. J. Ziegler, M.D., took the place of the *Dental News Letter.* The known ability of these gentlemen as writers, and the prominent positions they occupy in their respective professions, are sufficient guarantees of the character of the journal in their charge; ever zealous for the advancement of the profession, we feel satisfied that they will leave nothing undone to promote its interests.

The elevated tone that has characterized this "monthly," thus far in its career, is strongly indicative of a healthy state of the science; and, profiting by the experience of the "quarterly," which it has displaced, we doubt not the profession may rely upon this as a medium through which to obtain that kind of intellectual nourishment which will build it up.

The periodical literature of a science possesses advantages over works of any other character, whether monographs or compendiums, from the fact that it is more widely circulated; and the individual articles being comparatively short, are read and studied with greater ease than the more elaborate productions. While text-books are greatly wanted, as well as works entering into the minutiæ of every subject connected with a science, that portion of the literature which visits the student or operator at times when he is not disposed to study, and is yet loth to be idle, imparts information that is not soon forgotten. The fact that journals fill the place—sometimes for a considerable period—of an extended library, in the offices of the poorer members of the profession, should remind those who send them forth of the importance of furnishing nothing but that which is of value. Knowing that good *can* "come out of Nazareth," let them hope that some naturally bright mind may be reached even in the darkest corner of the earth, whose contributions to science, in after-life, will compensate in full for all the labor they may bestow in protecting their pages from the detracting effects of unprofessional articles.

We had intended to refer in detail to the other works that have been written from time to time, and brought before the profession, but as very few of these, with the exception of the works of Professor C. A. Harris, of Baltimore, have met with even a moderate degree of favor, we will not weary our readers by directing their attention to them, but close our observations upon the dental profession and dental literature with the hope that no very great time will elapse before we shall be called upon to notice some marked evidence of the continued advance of a science the prosperity and ultimate triumph of which we shall hail with the highest gratification.

ART. III.—*Blood Disease.* By J. VAUGHAN HUGHES, M.D., late Acting Staff Surgeon to the British Forces in the Crimea, etc., etc. Churchill: London, 1859. pp. 132.

THE doctrine that a morbific matter in the blood is the immediate cause of many diseases, and that its concoction and elimination are necessary for their cure, is as old as the days of the Father of Medicine. In modern times this doctrine has received more definite statement and support from Liebig, and by calling to its aid so many of the phenomena of contagious and epidemic diseases, otherwise inexplicable, become clearly intelligible, that the *zymotic theory* has received countenance from the best medical writers, and is especially popular with the profession at large. The researches of modern pathologists, too, sustain the doctrines, without having yet succeeded in identifying the morbific agent itself, discovering its place of origin, or describing the cause of its development.

In the works of Paget, Simon, Virchow, and Williams, we find recorded a large amount of information upon diseased conditions of the blood; all, indeed, that we have yet succeeded in mastering. But from a study of these works we not only learn the present state of our knowledge, but also obtain an idea of the vast extent and great importance of that territory which yet lies beyond our ken, and which remains to be explored, mapped, and described by future investigators. We live in the firm belief that we shall see much of this territory conquered, and annexed to our present possessions; but at the same time feel assured that he who undertakes it has no holiday task before him. Indeed the probability is, that no one mind will ever discover and teach the great truths of this subject which now lie hidden from us, but that, like all great advances, it will be made gradually, step by step, one and another adding his mite, until the whole is known. Even if we are not obliged to wait for the assistance of a more perfect chemistry, we must have a large addition to our present knowledge of the composition of the various fluids of the body in disease—the analyses must be numerous and rigidly accurate—accompanying them must be carefully recorded observations of the symptoms which occurred at the same time, and when a sufficient number of these have been obtained, a candid and close examination must be made of the connection existing between the simultaneously occurring phenomena, and conclusions drawn which may afford a basis for practice. It is needless to say that this part of the task can only be committed to minds of a high order and free from a suspicion of bias or prejudice.

It is safe then to say, that whoever presents to the profession more accurate information upon the conditions of the blood in disease, or identifies certain series of morbid symptoms as depending upon abnormal conditions of the circulating fluid already known, lays the profession under obligations which, we are sure, will be acknowledged. Even less than this, would be a task worthy of commendation. To collect from the various sources all the facts recorded by different observers, to present them in a single treatise clearly and connectedly, to harmonize as far as possible what now appears conflicting, and compare what seems similar, and thus enable us to separate at a glance the known from the unknown, would be to confer a great benefit upon scientific medicine.

We regret to be obliged to say that neither of these tasks has been performed by the author, in the work under examination. We hoped to find in the book some additions to our present knowledge, and in the writer one who was laboring earnestly, although perchance humbly, in a field of scientific research so much needing cultivation. We have been disappointed in both respects. The book does not contain a single analysis of the blood, or of any fluid of the body, either original or the work of others; there are no cases recorded in which the symptoms are shown in connection with changes found in the circulating fluid; indeed, the author treats physiological and pathological chemistry almost as if they did not exist, and substitutes for them the crudest notions and the grossest mechanical views of the effects of deranged digestion. He attributes far more to "blood poison" than our present knowledge will justify, without presenting such clear notions of its nature and mode of action as would alone justify him in substituting this toxicological term for the simpler ones of gastric derangement, indigestion, or even the popular one, "bilious." We select a few paragraphs from the work, in illustration of the truth of our remarks:—

> "Foremost * * * * as acting most frequently as a vitiating source, and reflecting its mischief on the brain and mind, may be regarded functional disorder of one or more of the chylopoietic viscera—that chain of organs constituting an apparatus which is concerned in the digestive or vegetative functions of life. And we may safely and undoubtedly conclude, if there be one organ above the rest in this chain which is more liable than the rest to render the blood impure, it is that huge secreting and depurating viscus, the liver."—pp. 3, 4.
>
> "In temperate climes, and more particularly in England, where a large proportion of the population luxuriate in a heavy nitrogenous diet, * * * * attacks of functional derangment, varying in degree, occur in the liver; and this arises in consequence of the great mass of blood, which is formed by this kind of food, and propelled through its structure, creating a larger quantity of secretion than the organ can dispose of, or the wants of the system require. Hence an accumulation of bile takes place in the channels. together with the gall-bladder; and this collection cannot find a free exit into the bowel, because the main duct is plugged at its mouth with thick tenacious mucus, (!) another effect of this kind of diet to which we shall again refer."—p. 5.
>
> "Should the acrid bile burst forth from its pent-up duct, and trickle down the surface of the membrane of the intestines, the irritation which it induces is so great that an unusual amount of mucous secretion is poured out over the internal lining of the bowel; this tenacious effusion, there accumulating and hardening, (!) forms a thick impervious artificial coating that acts indirectly, but most injuriously. on the general system, by obstructing the free absorption of nourishment from the intestines, and by obstinately counteracting the effects of ordinary aperients: hence a costive state is produced. which adds to the general distress, by inducing a plethoric condition of the abdominal blood-vessels, giving rise to hæmorrhoids or menorrhagia."—pp. 13, 14.
>
> "Associated invariably with these evils, and bringing the gouty diathesis to a climax, we may always observe that the vegetative department of the frame rises to an overwhelming pitch (!) with a surplus of blood. Organs are distended and oppressed—their secretions increased and stagnating from want of application and disbursement, and while rendered inspissated by stagnation, they set up an irritation, which makes their respective organs hotbeds for brewing continued mischief, till, by absorption of this morbific mud, the circulating fluid becomes what has been already described, a reservoir of acrid and irritating impurities—a circle of floating evils," etc., etc.—p. 53.

That diseases are produced by morbid matters in the blood—that these matters have their origin in faulty digestion—that a cure is to be effected by eliminating these matters from the system—that the channels for elimination are the bowels, skin, and kidneys,—these are the doctrines of the book. But there is nothing new in all this, except the extent to which it is carried and the substitution of the meaningless term of "blood poison," for more simple terms. It is all before the profession now; the student finds it in his text-books on physiology and the principles of medicine, and the practitioner in every work to which he refers. The chapter upon "Blood Disease in Relation to Gout" contains not nearly all of what is given by every writer upon the subject, and nothing in addition; the substance of the chapter upon "Blood Disease in its Relation to Affections of the Uterus" is in every work on diseases of females, under the head of Menorrhagia; and the whole work is but Mr. Abernethy's doctrine of the constitutional origin of local diseases, far more feebly presented than it was by that great and singular man. The subject is as familiar to the profession as "household words," and no respectable practitioner thinks of treating the local ailments of his patients without giving due attention to the state of the general system.

But when the treatise upon blood disease, which we hope some day to welcome, shall appear, we shall not only look for more clearness and exactness than characterizes the present one, but also for more correctness and elegance of language than is shown in the following paragraphs, to which we have added the italics:—

> "The effects of blood disease on the brain and mind must be deemed the most important of any in the long category of bodily disorders which it can give rise to, and therefore demands in the first place more frequent allusion, and to be more deeply investigated, than any functional or organic mischief which may arise from the same cause in any less *dangerous* quarter of the frame."—p. 2.
>
> "We cannot employ the surface of the mucous membrane of the intestines for this purpose, to the same extent that we can use the kidneys or skin—that is, in severe *rotten cases*, we cannot make the liver, pancreas, and bowel disgorge their corrupting contents by one or two forcible strokes," etc.—p. 26.
>
> "Under such circumstances as these, hardly any case can prove so obstinate and deep rooted *but what* it would yield by perseverance in one persistent course of well-doing."—p. 57.
>
> "Such a state tends to constipate the bowels, and to *bung up* the secretion of the liver and pancreas."—p. 64.

We ought not to find fault with this term "bung up," so much more expressive than euphonious, since it is in accordance with the mechanical views of secretion arrested by plugs of inspissated mucus impacted in the excretory duct of organs, which we have already given, and which the author repeats several times.

We must object also to such spelling as "*alkalie*" and "*stramony.*"

There is so much to censure in this small work, and so little to praise, that the question is forced upon us, why was it written? We think we can find an answer to the question in the general tone of the work; an answer which we receive with regret, but which the facts force upon us. The frequent paragraphs throughout the work evidently intended for readers below the professional level, the delicate hints of superior tact and discrimination possessed by *some* intelligent and well-read physicians, the occasional flings at the folly and absurdity of "drugging," so sure to please the taste of the lay reader, and the exaggeration which prevails whenever the effects of deranged digestion are described, leave no doubts in our mind as to which was the strongest inducement to write it, the needs of science or of the author. The public mind of England has lately been much exercised in regard to the confinement of some persons in lunatic asylums; within the first four pages of the work, we find insanity, as produced by the derangement of the stomach and bowels, so prominently presented that the non-professional reader would be sure to consider it a most frequent cause, and if troubled with slight indigestion would plainly see a lunatic asylum in the distance, to which he was surely hastening. Then again, deranged digestion, with all its train of real and imaginary evils, has ever been the subject to which the popular mind gives readiest attention, and the humoral pathology, in the broadest sense of the term, is the only doctrine of disease for the people. Putting all these things together, we find it impossible to escape the conviction already expressed; we again say that we regret to make so harsh a judgment public, but our duty to our readers requires that we should seek to guard them against deception by the attractive title of a work which certainly has no claims to scientific value.

ART. IV.—*Proceedings and Debates of the Third National Quarantine and Sanitary Convention, held in the City of New York, April*, 1859. 8vo., pp. 728. New York, 1859.

THE Quaratine and Sanitary Convention, held at New York in April last, was in session four days, and if the ponderous volume before us is to be taken as any evidence, we may justly conclude that the meeting was one of great interest. That much earnest discussion was elicited is certain. The speeches of the learned Francis and of the no less learned La Roche are extremely elaborate, and evince no little skill at an attempt to show which is the better side of a grave and important question. The debate occasionally waxed quite hot, and yet were the blows of the adversaries dealt so gently and so gracefully that, as the weapons of their rhetoric descended, they fell harmlessly upon the head at which they were leveled. Fortunately, neither of the combatants could appropriate to himself the saying, "*Quid nisi victis labor.*"

The Report of the Committee on Quarantine, drawn up by Drs. Wilson Jewell, Francis Condie, and W. J. Wragg, embraces upwards of eighty pages, and exhibits an unusual amount of erudition and care in its preparation. The historical portion of the document, from the first of these able physicians, is a most painstaking production, distinguished for the extent and minuteness of its research, and is destined to occupy a permanent place in our quarantine and sanitary literature.

The Report on the Importance and Economy of Sanitary Measures was furnished by Dr. John Bell, of this city, and is the most elaborate article in the transactions, occupying not less than 199 pages. To say that the various topics comprehended in its scope have been ably discussed would not be doing the learned and indefatigable author justice. He has treated all with consummate ability, and his report will always be referred to as one of standard authority. There is no man in the country to whom the subject could have been more appropriately referred for patient and thorough elaboration. Whatever Dr. Bell touches with his pen he adorns.

In addition to the above reports, there is another, also of much merit, by the committee on "The Internal Hygiene of Cities," by Drs. Thomas Miller, E. M. Snow, W. C. Van Bibber, R. D. Arnold, John H. Griscom, Henry G. Clark, and John Bell. Perhaps the most valuable parts of this document are those which refer to the labors of Morfitt, Muspratt, and Tardieu on the nature and use of disenfectants.

The President of the Convention was John H. Griscom, M.D., of New York, assisted by twelve vice-presidents, seven of whom were physicians, the others being lay delegates. Five secretaries officiated on the occasion. The list of delegates was very large and respectable, representing ten States and the District of Columbia. The deliberations of this distinguished body closed with a banquet at the Metropolitan Hotel, at which, judging from the "Proceedings," (and how is one who was not present to judge in any other way?) there must have been much hilarity with a great deal of anti-sanitary matter. Among the toasts that were drank, "woman," of course, was not forgotten, for there was probably no one present who did not recollect that he had, at one time or another, been *quarantined* by her.

> A seraph all holy, she gladdens our way,
> And garlands December with roses of May!
> And shines the heart's star, wherever we roam,
> The beacon of love, the angel of home.

The response to the above sentiment was very appropriately confided to Dr. Snow. He spoke with great *fervency*, and came very near *melting* away under his exertions.

We cannot but think that these conventions are destined to exert a salutary influence upon the health and happiness of the American people.

Their effects may be slow, but ultimately not the less certain. Public opinion has been fairly aroused, and the inevitable result will be further inquiry, the blessings of which no one can now predict.

We were particularly struck with the subjoined remarks in the address of Dr. Griscom, on taking the chair as the President of the Convention. We wish that the facts embraced in them could be written in letters of iron upon the forehead of every city in North America.

> "The subject of quarantine has occupied the attention of mankind from time immemorial; but that of internal defenses against individual diseases, scarcely, until within a very few years. Yet what do we find to be the results in reference to these different circumstances? For example, in the City of New York, we have lost by *Cholera*, in twenty-five years, 12,300 inhabitants; by *Cholera Infantum*, 15,000; within twenty years, we have lost by *Hydrocephalus*, 12,400; by *Cholera Morbus*, 1400; by *Erysipelas*, 2100; by *Convulsions*, 20,000—*i.e.* convulsions belonging to and affecting infantile life. These are diseases which are generated chiefly within the city, and within the domicile itself, against which the city is defenseless; while from *Yellow Fever*, which can be kept out, and which is not generated among us, we have lost in *fifty years* only 600."

ART. V.—*Elements of Medical Jurisprudence.* By THEODRIC ROMEYN BECK, M.D., LL.D., etc., etc., and JOHN B. BECK, M.D., etc., etc. Eleventh Edition. With Notes by an Association of the Friends of Drs. Beck. The whole revised by C. R. GILMAN, M.D., Professor of Medical Jurisprudence in the College of Physicians and Surgeons of New York. In Two Volumes. pp. 884 and 1003. Philadelphia: J. B. Lippincott & Co., 1860.

THE appearance of a new edition of the world-renowned work on medical jurisprudence of the brothers Beck, gives rise to emotions of a grave as well as of an inspiring nature. One of the original authors, Dr. John B. Beck, has been dead some years; the other, Dr. Theodric Romeyn, by whose plastic skill the work gained form, and shape, and distinctive features, and who continued to watch and nourish it by regular supplies, has also more recently paid the great debt, and can no longer enjoy the fame which he had so well earned by his labors. But friendship has evoked intelligent, sympathizing spirits to continue in the course marked out by those who have gone before them, and thus, by "a labor of love and respect," the world is favored with a new and enlarged edition of Beck's Elements of Medical Jurisprudence.

We learn from a short and modest preface by Dr. Gilman, that the task of preparing a new edition for the press was confided to him by the family of Dr. T. R. Beck; and at the same time a large amount of matter was placed at his disposal, which the author had, with characteristic industry collected for a new edition of his treatise on Medical Jurisprudence. Dr. Gilman, not relying on his own ability to do entire justice to such a trust, sought aid from the friends of Dr. Beck. The appeal was promptly responded to, and he was enabled to place most of the more important chapters in competent hands. The list of these his collaborators is given. Taken in the order of contributions furnished by them it consists of Dr. R. H. Coolidge, U. S. A., on Feigned Diseases; Dr. Austin Flint, on Impotence and Sterility, Doubtful Sex and Rape; Dr. J. P. White, on Pregnancy; Dr. Tilden Brown, on Mental Alienation; Dr. John Watson, Wounds on the Living Body; Dr. B. W. McCready, on Poisons; Dr. Samuel St. John, on Irritant and Narcotic Poisons; and Dr. C. R. Gilman, on Medical Evidence, and Insurance upon Lives. Dr. Gilman's own task, as he informs us, "besides general supervision, has been to incorporate into the body of the work the materials prepared by Dr. Beck, and to make the changes of which he had indicated the propriety." He acknowledges his obligations to John C. Dalton, M.D., for a valuable paper on the Corpus Luteum; and to George Shea, Esq., counselor-at-law, for valuable suggestions on the purely legal portion of the subject; also to the Hon. Murray Hoffman, of the New York Superior Court, for favors of the same kind.

Thus invigorated and enlarged by external additions, as well as by interstitial supply, through the voluntary labors of able and judicious friends, this originally sterling treatise, modestly called Elements, again comes before us, as a methodically arranged repertory, complete in the number of its subjects, and fuller in the details of most of them than any kindred work extant. Like the famed river praised by the poet, it is "to overflowing full," rich to exuberance, and requiring time to turn to ready account its multifarious details. If it have a defect, it is in its voluminous character, which, while it gratifies the studious reader who has leisure on his side, is not favorable to a ready reference at the hurried moment of need, with a view of clearly ascertaining the actual principle, rule, or law, deduced from the many facts and sometimes conflicting opinions which are brought to bear in elucidating the case.

After "taking a retrospective view of the great field of medical jurisprudence, and of those who have acted a prominent part in it," and giving an analysis of the large work of M. Briand on the subject, in our November number of last year, we are not now called on to give the history of the science, to enlarge on its importance, nor to engage in a critical disquisition on the "Elements of Medical Jurisprudence." We cannot, however, forbear, even at the risk of wearying by iteration, from renewing the expression of our deep regret and mortification at the general neglect of medical jurisprudence in the larger number of the medical schools of the United States, as publicly evinced in their failure to recognize it as a distinct branch, and to teach it from a separate chair. This neglect is more complete and signal in the three great medical schools of Philadelphia than in most of the institutions of the kind in other places. In these latter acknowledgments of the utility if not paramount importance of the subject are implied by an announcement, in the curriculum, of an intention on the part of some one of the Faculty to teach it in connection with his specific subject. In the published statement of branches and professors, emanating annually from the medical schools of Philadelphia, there is not even the slightest mention of medical jurisprudence, nor any intimation given that it will engage the attention of a professor more than Hindu mythology, or the squaring of the circle. The only resource left to the students of medicine and law under such privations, is in the careful perusal of works like the one now before us; and certainly it must be admitted that the compensation is not small.

For reasons already assigned, as well as from the fact that the Elements of Medical Jurisprudence have been brought so repeatedly into public notice in reviews and notices of the successive editions which it has gone through, we shall attempt to give scarcely more than an outline of the contents of the two volumes of which the work consists, while directing, at the same time, the attention of our readers to the subjects on which additions are made in the last edition by parties previously named.

After an introduction, giving the definitions and history of medical jurisprudence, the first volume opens with a chapter on "Feigned Diseases," to which apposite additions have been made by Dr. Coolidge. The greater number of cases of this kind of imposture present themselves to army and navy medical officers, by men who are desirous of procuring their discharge. The patience and pertinacity which these malingerers evince, and their endurance of the severe and painful tests to which they are subjected, are truly wonderful. In common life, women are the most numerous and the most adroit at simulating infirmities of all kinds — in some instances for the purposes of gain, or other direct personal advantage, in others from the mere love of mystery and deception. While the most remarkable examples of feigned diseases have been met with among soldiers and sailors, and the female inmates of hospitals, and also in criminals, for the purpose of escaping the penalty of the law, the physician in his daily routine of practice should be prepared to meet, every now and then, with cases which properly come under this head, even when they do not seem to be more than common exaggerations of real infirmities. This is a kind of simulation called by Zacchias *simulatio latens.* The whole subject forms one of the many chapters of human life in which there is a keen struggle and encounter of wits between the deceiver and the detector—and on this account alone, irrespective of the design on the part of the historian to aid the cause of justice, its perusal has about it something of a romantic interest.

The principal diseases that have been feigned are fevers, affections of the heart, pulmonary consumption, hepatitis, various disorders in which pain is the predominant and most distressing symptom, hemoptysis, hematemesis, bloody urine, hemorrhoids, jaundice, paleness of the skin, cachexia and great weakness, diarrhœa and dysentery, involuntary stools, vomiting, apoplexy, vertigo and headache, paralysis, epilepsy, convulsions, chorea, catalepsy, syncope and hysteria, insensibility, somnolency, hydrophobia, neuralgia, scrofula, incontinence of urine, gonorrhœa, excretion of calculi, myopia or near-sightedness, ophthalmia, nyctalopia, deafness, stuttering and stammering, tumors and enlargements, physconia, prolapsed rectum and uterus, Barbadoes leg, hydrocele, contractions and deformity, and lameness, ulcers, wounds *fictitious* and *factitious*, pregnancy and delivery, feigned insanity. "Abstinence for a great length of time is the most frequent, as well as the most successful, of these deceptions." Dr. Coolidge, repeating the question of Dr. Copland, asks: "Wherefore should we attempt to detect this deceit?" Mental alienation is sometimes feigned, and is not a little difficult of detection. A case of this nature, detailed by Mr. Marshall, is introduced by Dr. Darwall in the English edition of Dr. Beck's Elements. A work which appeared a few years back by Dr. Hector Gavin, being a "Prize Essay on Feigned and Factitious Diseases, chiefly among Soldiers and Seamen," is recommended to notice by Dr. Coolidge. Also, "*Aide Memoire Medico-Legal de l'Officier de Santê de l'Armêe de Tevre,*" par F. C. Maillot et J. A. A. Puel."

The next chapter, on "Disqualifying Diseases," has also received important additions, and been in part rewritten by Dr. Coolidge. Notice is taken of disqualifications in civil cases and in criminal cases, but the greater part of the chapter is occupied with a review of the disqualifications for military service. Some of the tables introduced here acquire an additional, although incidental, value by their indicating the frequency of certain diseases in the recruits examined. An aggregate of the men thus inspected, and of the diseases for which rejections were made, amounting for the first to 809,240, and that of rejections 185,982, during three years in France, shows that 21·64 per cent of the conscripts were pronounced unfit for military service. "It has been stated on good authority, that in the Peninsular war four out of ten recruits from the agricultural districts died in a few months, while six out of ten recruits from the manufacturing districts die in the same period." Valuable information relating to the recruiting system in the United States army is furnished by Dr. Coolidge.

Some notes have been added by Dr. Austin Flint to the chapters on "Impotence and Sterility," "Doubtful Sex," and "Rape." These subjects offer a wide scope for observation and commentary, and the introduction of cases, which is only allowable in a work strictly scientific, can hardly be made without a feeling of regret at the necessity of dwelling on the state and changes, the result of natural causes or of criminal intent, of parts properly designated in common language as "private." It is observed by Dr. Beck: "An individual accused of committing rape has been known to plead that he was physically incapacitated; while the legitimacy of children has been contested on a similar plea." The history of received opinions and of legislation on the subject, as we read it here, is curious and interesting. The author adopts the division made by Foderé into *absolute*, *curable*, and *accidental* or *temporary* impotence. The causes, as they occur in the male, are first noticed. Those of an absolute kind are principally owing to some malformation or defect in the genital organs; and these may be either natural or artificial. To this class we refer the following: an absolute want of the penis, also a scirrhous or a paralytic state of the organ, induced by injury to the nerves or muscles of the parts, and an unnatural perforation of the penis; or in other words, the extremity of the canal of the urethra terminating at some place rather than the natural situation. When this happens in the upper part, it is styled *Epispadias;* when below, the *Hypospadias.* We shall see, however, that it would be unsafe to consider all or most of these as absolute causes of impotence. The apparent want of testes, owing to these organs not having descended from the abdomen, is no proof of impotence. The same remark may be made of the loss of one testicle only.

"Among the curable causes of impotence may be enumerated the following: an atony of the parts, arising sometimes from local disease or external injury, and at others from masturbation; a retraction of the penis, originating from stone in the bladder, or some other urinary diseases; a natural phymosis, which sometimes confines the glans in such a manner as to prevent the emission of semen; obliteration of the canal of the urethra, from stricture or other causes; and lastly, the malformation of which we have spoken, as in the place of the aperture of the urethral canal. All these have been successfully obviated by modern surgery."*

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* We do not introduce the foot-notes of this paragraph. These additions are numerous in the work, and would of themselves almost constitute a body of legal medicine.

"The third class of causes of impotence, the accidental or temporary ones, is the most important, as they are frequently the subject of legal investigation. They are those which affect an individual during his marriage, and of course have to be considered in cases of contested paternity. The law presumes that the husband is the father of every child conceived during the term of wedlock, yet it allows an investigation as to the chastity of the female." "The proofs of bastardy may be thus: 1. impotence, and 2. a proof of non-access, so conclusive that it is *impossible* that the husband could have been the father of the child."

In treating of impotence and sterility in the female, we may divide them, as in the case of those of the male, into incurable and curable. The incurable causes are: 1. An obliteration or thickening of the sexual organs, so as to prevent any introduction. 2. A natural or fistulous communication of the vagina with the bladder or rectum. There are exceptions, however, to this being an insuperable bar to conception. 3. A prolapsus or retrocession of the uterus, or a prolapsus of the vagina. "These are of course curable during their first stage." 4. A cancer of the vagina or uterus. Cases are on record of females thus diseased having borne children. 5. Extreme brevity of the vagina (congenital) would seem to be occasionally an incurable cause, so far as relates to the pain caused by connection, although it probably may not be connected with sterility. The curable cases are 1. A dense substance covering the orifice of the vagina. 2. An extreme narrowness of the vagina. 3. A similar condition caused by tumors and callosities, cicatrixes remaining after the cure of ulcers, or from lacerations after difficult labor. "A dilatation of these may be made according to the rules of modern surgery." To the above causes may be added long-continued hemorrhage, recent prolapsus of the uterus or vagina, or even protracted fluor albus. A protrusion of the bladder into the vagina is suggested by M. Ingleby as an additional cause of impotence.

The causes of sterility of an incurable nature are "a scirrhous or cartilaginous uterus, stricture in the cavity of that organ, a polypus on the interior of the uterus, enlarged and scirrhous ovaria." "The causes which may be curable are, obliquity in the position of the uterus, too great irritability of that organ, excessive menstruation, leucorrhœa, retention of the menses. This last, however, is not by any means a certain cause of sterility, as women have become pregnant without the menses ever occurring." There are many causes of sterility which we cannot explain. Ashwell ascribes it to four principal causes: too early marriage, general ill health, too frequent sexual intercourse, and dysmenorrhœa.

The next chapter, on "Doubtful Sex," contains a great amount of curious matter, in which, of course, the subject of hermaphrodites takes a prominent place. Reference is made by the author to an elaborate essay by Andrew Duncan, Jr., M.D.; also to the articles *Generation*, in

Rees' Cyclopedia, and *Hermaphrodites*, in Brewster's; several articles on the subject by Marc, in the *Dictionnaire des Sciences Médicales;* and a very learned and elaborate article on "Hermaphroditism," by Professor Simpson, in the Cyclopedia of Anatomy and Surgery, vol. xxi. The researches of modern anatomists, says a writer in the *British and Foreign Medical Review*, have completely set at rest the long-debated question of hermaphrodism in the vulgar acceptance of the word. It is anatomically and physiologically impossible. He makes the important additional remark, that legislation, admitting only two grand classes of individuals, on whom it imposes duties, and grants different and almost opposite rights, according to their sex, does not truly embrace the entire of the cases; for *there are subjects who have* really no sex, such as neuter hermaphrodites, and hermaphrodites mixed by superposition; and, on the other hand, certain individuals, the bisexual hermaphrodites, who present the two sexes united in the same degree.

"Rape," the subject of the next chapter, ever excites a deep interest, not alone in its medico-legal relations, but from a lively sympathy for a helpless, and, for the most part, young female, whose condition and age ought to be not only a protection against violence, but a claim for attention and kindness. The author begins with a notice of the signs of virginity, of which the hymen is generally regarded as one of the most constant and reliable. But before we deduce a positive opinion from the presence or absence of this membrane, we should be aware that "*it may be wanting from original malconformation, or it may be destroyed by disease or some other causes, and yet the female be pure.*" "*This membrane may, on the other hand, be present, and yet the female be unchaste; nay, she may become pregnant without having it destroyed.*" It has been found in girls who were laboring under syphilis. Narrowness of the vagina cannot be much relied on as a sign. The fleshy tubercles called *carunculæ myrtiformes*, commonly spoken of as the remains of the hymen, may, it is now positively stated, coexist with this latter. In treating of the signs of defloration and rape, the medical legist must bear in mind the fact that disease sometimes produces the appearance of external injury, and leads to suspicions against innocent persons. In some cases of typhus fever there is a mortification of the pudenda; but it is also a proof that a similar state of things may be caused by violence. "Marks of external injury are hence to be considered as *corroborating*, but not as *certain* proofs of the commission of a rape."

Doubts have been entertained whether a rape can be consummated on a grown female in good health and strength. "Metzger only allows of three cases in which the crime can be consummated: where narcotics have been administered, where many are engaged against the female, and where a strong man attacks one who has not arrived at the age of puberty." In addition to these circumstances, we must admit "that terror may operate on a helpless female; she may resist for a long time, and then faint from fatigue; or the dread of instant murder may lead to the abandonment of active resistance." A question comes up, whether "a female can be violated during sleep without her knowledge?" "As to natural sleep I totally disbelieve in its possibility with a pure person," is the decided opinion of the author. The case is different where the sleep has been caused by powerful narcotics, by intoxication, or if syncope or excessive fatigue be present. The general opinion that pregnancy cannot follow rape is contradicted by exceptional cases, although they be few in number.

The chapter on "Pregnancy" abounds with historical and physiological lore, which is made the foundation for a review of the subject in its medico-legal bearings. "Few questions occur in legal medicine of greater importance than the one we are about considering. On its proper decision may depend the property, honor, or the life of the female." Ought we not to add, also, the reputation and rights of children, or of those claiming to be such? Among the various signs of pregnancy recorded and examined in this chapter, is a *bluish tint of the vagina* extending from the os externum to the os uteri. This is regarded by Dr. Kluge, professor of midwifery in Berlin, as a sure test. An analogous one, amounting to a change of color on the lining membrane of the vagina, so as to be of a violet hue, and sometimes purplish like the lees of wine, was noticed by M. Jacquemin. Dr. Montgomery, of Dublin, acknowledges the importance of this sign. Doubts have recently been thrown over the validity of the indications furnished by auscultation, to ascertain the presence of a living fœtus in the womb. It is obviously improper to rely on any single proof of pregnancy.

We are obliged to pass over, reluctantly, the long chapter on "Delivery," concealed and pretended, its signs, and the questions of the viability of the child and its ability to inherit; and without our being able to rest on the following one, or "Infanticide." This last, by Dr. John B. Beck, is one of the completest treatises on the subject extant. It takes up more than 160 pages of the first volume, that now under notice. "Legitimacy," the subject of chapter ninth, brings up the questions of the ordinary term of gestation, premature delivery, and protracted delivery; the laws of various countries on the subject of legitimacy, and inquiries relating to paternity and filiation. "Presumptions of Survivorship" involve considerations of a mixed nature in which the medical testimony has a collateral value. "Age and Identity," themes for another chapter, furnish striking evidences of the fallibility of human testimony, and of a credulity which, in some instances, seems to be endemic, affecting the memory and powers of observation of the inhabitants of an entire town or district, and even of the immediate relatives of the person whose place is attempted to be taken surreptitiously by an intruding impostor. Cases of this nature yield ample materials for the "*Causes Célèbres*," which one reads with a more lively interest than would be produced by an elaborated romance. "Insurance upon Lives" is the title of a chapter, the subjects of which appeal to the pecuniary sensibility of an increasing class of persons. Of all the subjects which come within the province of medical jurisprudence there is no one which produces so pervading, and, at the same time, painful interest, and which tasks so severely the reasoning faculties of those who engage in its investigation, as insanity or mental aberration. Its very fullness, and the many doubtful points to be discussed for its elucidation, forbid any attempt on our part to give even the slightest sketch of the chapter on "Mental Alienation," which concludes the first volume of the "Elements." We notice it now, in order that we may refer to the material addition made by Dr. D. Tilden Brown, which brings up the description of the phenomena of mental diseases to more conformity with the present state of knowledge than was met with in the last edition. It was Dr. R. Beck's intention to omit entirely the chapter on this subject, with a view of his preparing, in conjunction with the late Dr. Amariah Brigham, a separate volume on mental diseases. Dr. Brown seizes on the occasion to recommend, in terms of decided but not ill-judged praise, the recent work of Drs. Bucknill and Tuke, entitled "Psychological Medicine," of which a tolerably full analysis was given in this Journal, Sept., 1858. Dr. Gilman also adds some appropriate critical commentaries to the present chapter, the slightest glance at which must convince the tyro in legal medicine what little probability there is of his being able to extemporize an opinion on any one of the many points which may come up in a court of justice, respecting the imputed insanity of an individual.

The first chapter of the second volume, chapter fourteen of the entire work, in two parts, is on "Persons found Dead." A large amount of anatomical, physiological, and surgical knowledge and acumen are called into requisition in examinations and evidence in the trial of cases coming under this head. The topics more immediately discussed are, duties of the coroner, medico-legal dissection, sudden death from natural causes, and death from violent causes. Under this last head are asphyxia, and the question whether death arises from suicide or other violence, persons found dead from cold, from hunger, from lightning, burnt to death, and death from wounds. The question to be decided is, whether the wounds are the result of suicide, accident, or homicide. Other topics, under the general head, are persons found dead from noxious exhalations, found hung, strangled, smothered, suffocated, or drowned.

The chapter on "Wounds" has received additions such as might be expected from the well-known union of learning and practical surgery possessed by its annotator, Dr. John Watson. The extensive and complicated subject of "Poisons," itself constituting, under the head of Toxicology, a distinct branch of medical jurisprudence, and which is sometimes called Legal Chemistry, takes up nearly five hundred and fifty pages of the second volume; thus equaling in size many comprehensive treatises. Modern science, especially in the garb of analytical chemistry and microscopy, has imparted a precision of detail and accuracy of deduction to toxicology beyond the advances made in the other walks of legal medicine. There are still, however, obscurities, especially in the detection of vegetable poisons—witness the late case of Palmer, which baffle the skill and acuteness of the most practiced expert, and prevent the full and general application of a now received dictum, viz., that the symptoms of poisoning, including the morbid changes of structure, though they may induce violent suspicions of the cause, are not, of themselves, by any means conclusive, without the corroborating and final proofs furnished by chemical tests, in an examination of the substance in the body or after it has been ejected. Fortunately for the ends of justice, the vegetable poisons, which are the most difficult to detect after their ingestion into the stomach and subsequent ready absorption, give rise to symptoms of a more diagnostic nature than those of the mineral kingdom, the presence of which is so much more readily ascertained in the cavities and fluids of the body. Drs. McCready and St. John have been careful not to overlay the already copious text with long additions. Those made by them are few and short, and to the point.

The last chapter, on "Medical Evidence," to which good annotations have been made by Dr. Gilman, contains excellent advice to the inexperienced witness who is summoned before a court of law. He will find that it is necessary, not only to be acquainted with the professional bearings of the question at issue, but, also, to evince a calmness and self-possession which will command the respect of all parties and protect him from the impertinences and purposed vexations to which he may be sometimes subjected by flippant counsel on a cross-examination. Dr. Gilman judiciously remarks, "that the medical witness will find it to his advantage to manifest the greatest deference to the judge; it is far better to exceed than to fall short in this matter."

ART. VI.—*Introductory Lectures and Addresses on Medical Subjects, delivered chiefly before the Medical Classes of the University of Pennsylvania.* By GEORGE B. WOOD, M.D., LL.D. 8vo., pp. 460. Philadelphia: J. B. Lippincott & Co., 1859.

THE present volume will no doubt prove a source of great gratification to the many friends of Professor Wood, especially the graduates of the University of Pennsylvania, to whom they are affectionately dedicated by their distinguished author. It was well that, upon his retirement from an institution which he so long adorned with his scholastic labors, and of which he was one of the noblest pillars, he should have reproduced these memorials of his zeal and devotion to the interests of his pupils, uttered before them on various occasions either as he met them for the first time in the lecture-room, or as he greeted them for the last time on commencement day. Their perusal will awaken sad reflections in the minds of many readers, when they consider that the voice to which they were wont to listen with so much delight and profit is to be no longer heard in the halls of their Alma Mater; that he will no more stand before his pupils upon the rostrum as an oral instructor; and that his honored name will henceforth appear only upon annual announcements and catalogues of the school in connection with the title of Emeritus Professor.

But while they thus grieve for the loss of their teacher, the friends and graduates of the University of Pennsylvania have much to console them. Dr. Wood retires from his scholastic duties in the vigor of his manhood, ere the hand of mental and physical decay has made the slightest perceptible impress; at a moment when he lectured with as much force, and ability, and precision, as when he entered upon his career a quarter of a century ago. He might with great propriety have remained in the occupancy of his chair a number of years longer; but, unlike some selfish spirits with whom it was once our lot to be associated, he has chosen to retire in the full consciousness of his power, and amidst the profound regrets of every right-thinking man in the profession. His example is worthy of all imitation. There is a time when a professor, like a general or a statesman, ought to retire from public life, and that time unquestionably is when his mental and physical faculties are in their full vigor; not when he is tottering under the effects of old age, when he has to be lifted into and out of his chair, and when his usefulness as an instructor has departed from him never to return.

It is difficult to determine when a man holding an important office should be legally superannuated, or regarded as unfit for the exercise of his duties. The Legislature of New York did, perhaps, a wise thing when it passed a law declaring that her public officers should retire at sixty-five; and yet Chancellor Kent, whom this enactment was, if we mistake not, particularly designed to affect, was not only in the full possession of his intellectual and physical functions at the time of his resignation, but he delivered for many years afterwards annual courses of lectures on law, and composed his immortal commentaries, one of the great works of the age, characterized by remarkable erudition and elegance of style. Caldwell remained in his chair until he was compelled to vacate it by an act of the board of trustees of the University of Louisville; and Russell, of Edinburgh, also an octogenarian, left that celebrated school only after he had been bought off! Age and inability are, of course, relative terms. A man may be old and worthless at forty, while another may be young and in full vigor, both of mind and body, at seventy or even eighty. Chief Justice Marshall retained all his manly vigor until death freed him alike of life and of office; and Lord Brougham, an octogenarian, is still in full possession of all his mental faculties. General Cass is rapidly approaching his eightieth year, and yet he daily performs with great ability all the duties of his important and laborious office of Secretary of State at Washington. The "Iron Duke," at the same age, was never in better trim, or more wise in council, and more resolute in action. We do not believe that young men are by any means the best teachers; to give instruction in any branch of medical science, in any degree commensurate with the wants and requirements of the student, demands vastly more preparation and an amount of knowledge which few young men, under any circumstances, can command. A ripe judgment and a long experience are always most efficient aids in every well-matured course of lectures; but there is, nevertheless, a period beyond which a professor ought not, as a general rule, to continue in office. His self-respect, if nothing else, should prompt him to quit public life the moment he becomes conscious that he can no longer discharge the duties of his chair with credit to himself, fidelity to his class, and honor to the institution with which he is connected.

Dr. Wood has been an eminently successful and fortunate man. Providence has heaped upon him its choicest blessings. All the honors that a medical man can achieve he has received, and, more than all, he has well deserved them. For twenty-five years a professor in one of the most renowned medical schools in the world, at first of materia medica, and afterwards of medicine, he was for a long time physician to the Pennsylvania Hospital, and for many years he has been President of the College of Physicians, as he was formerly of the American Medical Association, and as he is now of the American Philosophical Society. Some years ago Princeton College conferred upon him the degree of

LL.D. As a writer he ranks deservedly high. His works on Materia Medica and the Practice of Medicine, and his labors as one of the authors of the United States Dispensatory, an immense storehouse of erudition, published jointly by himself and Professor Bache, have given him a world-wide reputation among medical men.

The volume before us is issued in a superior style, highly creditable to the liberality of the publishers, and the taste of Dr. Wood. It comprehends a great deal of useful matter, entitling it to a place in every medical library.

Art. VII.—*Lectures on the Diseases of Infancy and Childhood.* By Charles West, M.D. Third American edition. pp. 629. Philadelphia: Blanchard & Lea, 1860.

Dr. West has long been favorably known in this country as the author of an excellent treatise on the "Diseases of Women," and also by the present publication, originally issued at London, in 1848. "I have done my best," says the author, in his preface, "in this edition, which is much enlarged, to supply past deficiencies, as well as to correct former errors;" and it is proper to add that the value of the work has been materially augmented by appending some lectures published by Dr. West since the appearance of the fourth London edition, of which the American is a reprint. As it now presents itself, it is unquestionably the most original, if not also the most complete treatise on the diseases of children, in the English language, founded as it is upon the results of 900 observations, and 283 dissections made among nearly 30,000 infants examined by the author during the last twenty years. The style of the work is at once elegant, clear, and forcible, and a careful perusal of its opulent pages cannot fail to satisfy every one that it is the production of one of the master-spirits of the profession.

Anything even like an attempt at an analysis of this able work would, at this late period, be obviously out of place. Nevertheless, we cannot refrain from extracting the following passage on puncture of the cranium as a means of cure in chronic hydrocephalus, inasmuch as the sentiments expressed in it so fully accord with the results of our own observations. The passage contains no allusion to the operations of Dr. Conquest, who published, many years ago, a statement to the effect that it had proved successful in his hands not less than eighteen times. "*Credat Judæus Apella, non ego.*"

"Puncture of the cranium, and the evacuation of the fluid, is another proceeding which has been occasionally resorted to from a very early period in the history of medicine, and which is even at the present day strongly advocated by some writers; not merely as a palliative measure, or as an adjunct to other remedies, but as a means of effecting the radical cure of the disease. Opinion, however, is much divided as to the propriety of this practice, the statistics of which certainly do not yield any very encouraging results. Fifty-six cases, the particulars of which I published some years ago,* as I found them recorded in various publications, yielded a proportion of fifteen alleged recoveries; but on subjecting these cases to a rigid analysis, it appeared that in only four of this number were the particulars recorded with sufficient accuracy, or had the interval since the performance of the operation been long enough to warrant our admitting them as permanent cures. The very unfavorable conclusions which I then expressed with reference to this operation were afterwards criticised by M. Durand-Fardel,† a gentleman whose opinion on any question connected with cerebral disease is entitled to very great weight. He observed that, while it is admitted that in a few cases puncture of the cranium has been followed by complete and permanent cure, its failure on other occasions was often manifestly due to the existence of utterly incurable malformation of the brain; while in many instances, though the operation failed to effect a cure, yet the very frequency with which it was repeated proved that in itself it is not usually attended with any considerable danger. Since, then, it may do good—since, if it should fail, its failure is often due to causes which no remedy could remove—since, even if it should do no good, yet in the majority of instances it will do no harm, while if left to itself the course of the disease is almost invariably to a fatal result, he advocates its performance in cases of chronic hydrocephalus. Though I cannot but fear that this gentleman rather underrates the amount of immediate risk attendant on the operation, yet I think that his authority ought at least to have so much weight with you as to prevent your looking upon its performance as altogether unjustifiable, and the rather since there is good reason for believing that the accumulation of fluid in the ventricles is frequently the result of previous inflammation of their lining membrane, and that puncture of the cranium may therefore contribute to the cure of dropsy of the brain, just as tapping the abdomen does to the cure of ascites."

VIII.—*Transactions of the Medical Society of the State of Pennsylvania at its Eleventh Session, held in Philadelphia, June,* 1859. Philadelphia, 1859, pp. 120.

THE results of the session of the State Medical Society in Philadelphia in June last, are recorded in the pamphlet before us. One of the main features of the reports, apart from those presented by county medical societies, was the remarks of Dr. Condie, presented on the second day of the session, on behalf of the committee appointed "to procure a supply of vaccine virus from the original source." His efforts to distribute it for general use were greatly impeded by the fact that the expense and labor incurred in obtaining the virus recently from the cow, and in carefully testing its effects by inserting it in the arms of healthy children, were too onerous to enable a single individual to supply a sufficient amount of recent virus for the wants of the entire profession throughout the State, or any very considerable proportion of it. The Minutes of the meeting occupy but a small portion of the Transactions; the Address of the President, Dr. Smith Cunningham, of Beaver County, and the Reports of County Medical Societies, constituting the main bulk of the pamphlet.

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* In the Medical Gazette, April, 1842.

† In the Bulletin Générale de Thérapeutique, vol. xxiii. p. 190.

The subject of the Address of the President is, "The period of human utero-gestation, with regard to the errors generally entertained on this subject by those not belonging to the medical profession; their effects upon society; and the remedy." He refers to the little latitude in this matter allowed to women by the community, the immutable nine months being fixed by the common mind as the period of gestation. The medico-legal importance of protracted cases is also referred to, as well as the effects of anticipation of the usual period, especially when occurring in primiparæ. These are the principal points in the Address of Dr. Cunningham, who, at the outset, very properly and modestly declares that, on any subject proper for a discourse before a medical society, it is impossible to say anything that the members do not know; an idea the reverse of that generally entertained by speakers on similar occasions.

We next have presented a "Form of County Reports to the Medical Society of the State of Pennsylvania," which, if adopted, would lead to a more simple method of classifying the information which such reports supply, as well as to a more accessible mode of comparison of the sanitary condition and general characteristics of different portions of the State. The prominent points are, "The Causes which Modify the Health of the County," embracing the subjects of locality, hydrography or drainage, topography, geology, and meteorology; "Mortuary Tables," under which head are included mortality, causes assigned for death, and quarterly tables, showing the whole number of deaths of white and of colored persons at various ages; "Prevalent Diseases," including epidemics and endemics of the year, fevers, and other diseases; and "Miscellaneous Matters," such as the effects of indigenous plants, and of new remedies, facts of interest in surgery and obstetrics, and notices of members deceased during the year.

These would be interesting points, if properly arranged, but we fear few will have the industry to carry out all the details of the tables satisfactorily. The reports which follow certainly attempt occasionally to preserve the order, but at times too briefly. Mortuary tables are not kept in some of the counties, and it is impossible even to approximate the number who have died. Of the interesting cases described, it is not expedient here to allude to any particularly; their history may be found condensed in the pages of the Transactions. The "Obituary Notices" are commemorative of the medical services of Dr. James Anderson, of Montgomery County, Dr. Wm. R. Howe, of Perry County, and of Drs. John Kearsely Mitchell, John H. Weir, and Gavin Watson, of Philadelphia.

The Society meets again in our city on the second Wednesday of June next. We trust that useful results may flow from its deliberations. From the disconnected reports of disease and mortality in various regions of the State, as of the prevalence of malignant scarlatina or measles in one county, and of phthisis or typhoid fever in another, but little can be learned of any general condition of health or disease throughout the State. Some one, who possesses the ability to attempt classification and the industry to accomplish it, might confer a real benefit upon those who do not wish to take the trouble upon themselves, and a useful table of comparison would thus at once exhibit the sanitary condition of different localities.

ART. IX.—*Clinical Lectures on the Diseases of Women and Children.* By GUNNING S. BEDFORD, A.M., M.D., Professor of Obstetrics, the Diseases of Women and Children, and of Clinical Midwifery in the University of New York. Sixth edition. 8vo., pp. 653. New York: Samuel S. & William Wood, 1860.

THE success of this work must be alike gratifying to its distinguished author and to his enterprising publishers. No medical publication has ever appeared in this country which has received higher or more flattering encomiums from the periodical press at home and abroad. The *London Medical Times and Gazette, London Lancet, British and Foreign Medico-Chirurgical Review, British Medical Journal,* and *Gazette Médicale de Paris,* all speak of it as a work of great practical value, and of the author as a man of unusual talent for observation. The fact that it has passed to a sixth edition since its first appearance in July, 1855, is a sufficient evidence of the estimation in which it is held by the American profession. Two additional lectures have been incorporated in the present edition, thereby considerably enhancing its value.

If we felt disposed to exercise our rights as critics, it would be easy enough to point out a number of objectionable features in the work before us. Its faults, indeed, are not a few. The style in which it is written is, in particular, distasteful; and as to the arrangement of its topics, hardly anything could be more irregular and disorderly. As a nosographer, Dr. Bedford evidently possesses talents of a high order, and there are few practitioners who would not feel disposed to indorse, in the main, his practical precepts. Indeed, the whole work is eminently practical, and this circumstance is, we doubt not, the great secret of its extraordinary success.

ART. X.—*Clinical Lectures on the Principles and Practice of Medicine.* By JOHN HUGHES BENNETT, M.D., F.R.S.E., Professor of the Institutes of Medicine, and Senior Professor of Clinical Medicine in the University of Edinburgh, etc. etc. etc. 8vo., pp. 952. New York: S. S. & W. Wood, 1860.

THE medical profession of the United States should consider itself deeply indebted to the Messrs. Wood, of New York, for the elegant manner in which they have issued this beautiful and costly work of the Edinburgh professor. The whole plan has been executed in such a masterly manner, the engravings have been so well done, the paper is so white and smooth, and the typography so clear and distinct, as to render it extremely difficult, if not impossible, to distinguish any difference between the English and American editions.

Of the intrinsic value of Professor Bennett's treatise we spoke so fully, on the appearance of the second edition, as to render it unnecessary now to do anything more than to give it a passing notice. Considered all in all, it is beyond question one of the most important, as it is certainly one of the most original, contributions to practical medicine that have been made during the present century, and we can therefore unhesitatingly recommend it to the attentive perusal of every student and practitioner of the healing art, as well calculated to advance their knowledge of the nature and treatment of disease. Composed in a style of unusual beauty and elegance, it abounds in the most valuable pathological and practical suggestions, serving as useful guides at the bedside; it is written in the true spirit of philosophy, and is a perfect model of purity, simplicity, and harmony of language, at the same time that it exhibits a perfect familiarity with all the great improvements of the age, and a masterly application of the microscope and chemical tests to clinical medicine. The present edition, a reprint from the third Edinburgh, has been extended by the addition of fifty pages, and is illustrated by five hundred engravings on wood, executed, as already stated, in the highest style of the art, and of the greatest value in elucidating the text.

Considering the extraordinary merits of Professor Bennett's work, it is not surprising that he should be one of the great pillars of the Edinburgh school, which has never, since the days of Cullen, shone with such a steady and genuine lustre as it does at the present moment under the light of a Simpson, a Syme, a Christison, a Miller, and the author of the Clinical Lectures on the Principles and Practice of Medicine.

ART. XI.—*A Clinical Memoir on Strangulated Hernia, with the Author's Practice: to which are added Remarks on Obstruction of the Bowels from other Causes; and a Postscript.* By GEORGE MACILWAIN. 8vo., pp. 120. London, 1858.

"NON semper ea sunt quæ videntur; dĕcĭpit frons prima multos." The present quotation is admirably illustrative of our opinion of Mr. Macilwain's work; when we ordered it through our foreign bookseller, we supposed, from the interesting nature of its title, that we should soon be put in possession of a great treasure, especially when we looked at that part of it marked, "with the author's practice." We had formed a sort of personal acquaintance, and one by no means of a disagreeable kind, with the author from a perusal of his treatise on "Medicine and Surgery one Inductive Science," and several minor efforts of his pen; but, truly "things are not always what they seem to be—first appearances deceive many," and we plead guilty to the soft impeachment of having been prodigiously humbugged by our purchase. The volume is about as jejune a performance as could well be conceived of; and when we inform the reader that the "author's practice" consists in the proscription of anæsthetics in the reduction of strangulated hernia, and in the employment of tobacco injections, we think he will agree with us that it would be a great blessing if another Paracelsus could arise to commit it to the flame. We pity, from the bottom of our heart, a man who can eschew so beneficent an agent as ether or chloroform under such circumstances, and deliberately set about the employment of so dangerous a remedy as tobacco. Mr. Macilwain is evidently surcharged with the most unpardonable prejudice in regard to the use of anæsthetics in the treatment of strangulated hernia. It is quite amusing to hear him talk on this subject. "Of chloroform, in strangulated hernia, I have no experience;" and, considering that his Memoir was published in the year of grace 1858, it is not at all likely that he ever will have any. Should he live twenty-five years longer, no treatment, however skillfully directed or perseveringly continued, will remove the thick scum which now covers his eyes in regard to this class of agents. Mr. Macilwain is evidently a conservative surgeon. When he entered the profession, thirty-five or forty years ago, he learned that tobacco was occasionally useful in promoting the reduction of strangulated hernia; and, true to the teachings of that period, he still persists in the villainous treatment, a treatment no longer employed by any Christian practitioner.

The following are our author's *reasons* for his rejection of chloroform in the affection under consideration: "With regard to chloroform, we know that it has produced lamentable results, altogether independently of those cases in which it has proved fatal. Two or three years ago, in a case of lithotomy, performed without chloroform, I went into the next room the moment I had removed the stone, to inform the mother that the operation was over, when the first thing she said was, 'Oh, sir, I am so glad you did not use chloroform!' And upon asking why, she gave me a very lamentable history of a daughter who was then laboring under mental aberration, which, she said, was attributed by the physicians to the use of chloroform." Pray, Mr. Macilwain, did you never know of patients having been killed by tobacco injections in attempts at reducing strangulated hernia, or by opium administered for the relief of pain, or by tartar emetic for the purpose of vomiting a man affected with disorder of the stomach and liver? Or, if afraid of chloroform, why could you not substitute ether? Surely no old, ignorant woman could object to that on account of its supposed, and merely supposed, injurious impression on the brain?

It would be somewhat difficult, without a more profound knowledge than is conveyed by his lessons, to determine the peculiarity of the "author's practice" in strangulated hernia. The following passage will, perhaps, afford some idea of its character:—

> "When called to a case of hernia, I endeavor to determine the probability of its proving reducible. If I determine in the affirmative, I apply the taxis, with the cautions I have hinted, at once. If I think it will prove irreducible, then, subject to the conditions which I have mentioned, I administer the tobacco. The surgeon should always superintend the administration of the tobacco himself; and immediately that the required lassitude is produced (if the hernia do not recede of itself, which sometimes happens,) he should endeavor to reduce it. If many persons are in the room, I request them to retire; they only disturb the patient. For the same reason, pupils in a hospital should not be allowed to crowd round a patient's bed. There is nothing to be learned by it, but much that may foil you by raising the alarm and excitement which all unnecessary circumstance occasions. If the tobacco do not succeed, the patient should be

allowed to recover from its effects, and then the hernia liberated without delay. The removal of the patient to an operating theatre, or another apartment, is objectionable, except for purposes of improved light or something strictly relevant to the requisitions of the operator. In fact, all unnecessary motion should be avoided."

We are glad to find, after so much that is objectionable in Mr. Macilwain's practice, that he is a warm advocate for repose of the bowels for several days after the operation for strangulated hernia. The practice of Travers, Lawrence, and others, of administering purgatives soon after the restoration of the parts cannot be too severely or pointedly reprehended. Rest of the intestinal tube for many hours is indispensable to the prevention of peritonitis. It is a practice which we have zealously advocated in our teachings for the last twenty years.

We candidly confess we do not see why Mr. Macilwain should have inflicted this Memoir upon the profession. It is greatly to be regretted that so much fine paper and good ink should have been wasted upon such trash as is contained in its pages, without a solitary redeeming quality as to its intrinsic merit, or even the value of "the author's practice."

ART. XII.—*An Epitome of Braithwaite's Retrospect of Practical Medicine and Surgery. In Five Parts.* By WALTER S. WELLS, M.D. Charles S. Evans: New York, 1860.

PARTS second and third of this valuable abridgment have been placed upon our table by Dr. Wells, who is at once author and proprietor. The labor of epitomizing so large a work as this must be immense, and we are sure the American editor deserves no little credit for the able and faithful manner in which he is executing his self-imposed task. Each number, as stated in our last issue, is furnished at one dollar, payable on delivery; a sum which must place the work within the reach of every member of the profession. We most earnestly commend Dr. Wells for his courage in issuing it at his own expense, and trust that he may not only not sustain any loss, but, on the contrary, find the enterprise adequately remunerative. Two more numbers will complete the analysis of the first forty volumes of the original work.

Original Communications.

ART. I.—*Cases, with Remarks, from the Surgical Clinic of the Philadelphia Hospital.*—Service of Professor GROSS.

Reported by EMIL FISCHER, M.D., of Philadelphia.

I. *Three Cases of Incontinence of Urine treated by the Application of the Actual Cautery to the Lumbar Region.*—*Case* 1.—John H., thirty-five years old, a carpenter, was admitted into the surgical wards of the Philadelphia Hospital, in January, 1860, on account of being unable to retain the contents of his bladder. He states that, about two years ago, while working at his trade, he fell from a building, striking on his back, and receiving a severe contusion across the lumbo-sacral region. The injury was followed by loss of consciousness, which lasted for an hour, after which he gradually recovered from the shock, retaining the perfect use of his limbs, and suffering from no bad symptoms. About seven or eight days after the accident, he noticed, for the first time, that he could not control his bladder as well as usual, but that the water dribbled away after having accumulated for a short time in the bladder; since then the difficulty had been gradually increasing. At the time of his admission the patient suffered from complete incontinence, the water dribbling off constantly, except at night, or whenever he assumed the recumbent position; it was then retained for two or three hours at a time, but ran off as soon as he rose from the bed. He did not complain of scalding, nor of pain in the region of the bladder or in the groins, but suffered occasionally from pain in his back. His general health has always been good, and the action of his bowels regular. On examining the case with the catheter, Professor Gross convinced himself that there was no foreign body present in the bladder, but thought that he could distinguish a fasciculated, hypertophied condition of that organ. The history and nature of the case led him to the conclusion that the proximate cause of the incontinence was paralysis of the bladder.

As the patient had already been subjected to various methods of treatment without receiving any real benefit, and as the other remedies usually employed in cases of this kind did not promise to be of much avail, Professor Gross proposed to make an issue in the upper portion of the lumbar region, which might furnish an abundant discharge and a clean surface for the application of remedies. The actual cautery was consequently applied on the seventh of February, the patient being under the influence of chloroform. The cauterized parts were dressed at first with cold water, and afterwards with an emollient poultice. An issue of the size of half the palm of the hand was thus produced, and a free discharge maintained by the occasional use of savine cerate. The improvement following this treatment was rapid and really astonishing, proving the great advantage of this kind of issue over all others, and the powerful impression it exerts both upon the part and upon the system. On the fourteenth of February, when Professor Gross brought the case again before his class, the patient stated that his water did not dribble off any more when he was walking about, and that he could retain it for several hours at a time, no matter what position he assumed. On examination, his urine was found to be acid, and to contain a large proportion of mucus. He was now put on the use of bicarbonate of soda and tincture of belladonna, with which he continued until the thirty-first of March, when he was almost entirely well.

Case 2.—Hannah D., aged about twenty-five years, of temperate habits, and robust frame, entered the surgical wards of the Philadelphia Hospital, in November, 1859. At the time of her admission she complained of being unable to retain her urine, it being voided involuntarily almost as fast as secreted. With the exception of this affection, which, on account of its inconvenience and disagreeable character, proved a source of great annoyance to her, she was free from any complaint. She suffered from no particular pain; her general health was undisturbed, and had always been so, according to her recollection, since childhood; her bowels acted well; her appetite was excellent; her menstrual functions were performed with great regularity; and she had never suffered from any uterine affection. The incontinence of urine came on without any assignable cause; the patient could not recollect that she had ever had a fall, been hurt in any manner, or had suffered from any serious symptoms: the uterus was in its natural position. For some time after her admission she was put successively on the use of various remedies without being benefited by them; the urine continued constantly dribbling, causing her linen to be always wet, and rendering it necessary for her to remain continually in bed. Dr. John W. Lodge, one of the resident surgeons of the hospital, inspected her urine carefully with the microscope, and found a copious deposit of phosphates with numerous epithelial casts and mucous corpuscles, the fluid being at the first examination alkaline, and subsequently neutral. The prescribed remedies not producing any appreciable effect, Professor Gross subjected the patient to a more rigid examination, during which he found that on making pressure upon the lumbar portion of the vertebral column, the woman complained of exceedingly acute and diffused pain. He consequently determined to apply the actual cautery over this point. In the early part of January, 1860, a large eschar was accordingly made with the iron at white heat, immediately over the lumbar region; the cauterized parts were dressed with cold water until the detachment of the slough; afterwards the sore was kept open, covered with a poultice, and the discharge promoted with savine ointment. The success following the treatment was very marked; the patient continued to improve rapidly and permanently, and at the end of five or six weeks was completely well, not being compelled to empty her bladder more than three or four times in the twenty-four hours. The issue was kept discharging for some time afterwards, and then allowed to granulate and heal. After the marked improvement of the symptoms the urine was examined again under the microscope, and was found natural, except an undue deposit of mucus and epithelium.

The patient continues perfectly well regarding the incontinence, but is now suffering under an attack of Bright's disease, the symptoms of which commenced to show themselves early in March. The albuminuria presents no facts of particular interest, but appears to be merely an intercurrent disease, the woman having been healthy up to the time of its appearance. Her urine has lately been subjected to repeated examinations, and was found to coagulate on the application of heat and nitric acid, and presented under the microscope numerous casts of the uriniferous tubules. Under the use of an invigorating treatment and the occasional exhibition of a little elaterium, her health is improving, and favorable hopes are entertained of her ultimate recovery.

Case 3.—James B., nineteen years of age, of dark complexion, robust frame, and apparently full habit, was admitted into the surgical wards of the Philadelphia Hospital, in the early part of January, 1860, on account of nocturnal enuresis. He has suffered from the disease for eight years, wetting his bed once or twice every night, but having complete control over his bladder when awake. Although having nearly approached to the years of manhood, he has been kept from learning any trade, as his different employers always discharged him as soon as they found out that he was laboring under so loathsome an affection. On catechizing the patient rigidly, it was ascertained that he was given to masturbation, a circumstance which served to explain the origin and the obstinate character of the disease. Dr. John W. Lodge, who examined his urine microscopically, found it to contain an abundance of uric acid crystals. Soon after his admission, the patient was put on the use of strychnine and cantharides, but these remedies producing no effect, Professor Gross concluded to apply the nitrate of silver, by means of the porte caustique, to the prostatic region of the urethra, which was accordingly done in the latter part of January, before the clinical class. The patient suffering from some pains after the application, he was put on the use of demulcent drinks, with bicarbonate of soda and paregoric. The cauterization was followed apparently by success; the youth could hold his water completely for several nights in succession; but the improvement was not lasting, and in less than two weeks a relapse took place, the patient wetting his bed as regularly as before. In the early part of February the cauterization was repeated, and the patient was ordered to take fifteen grains of bromide of potassium, with a tenth of a grain of sulphate of morphia, three times daily; but still the affection continued unchanged with annoying obstinacy. Encouraged by the great success which followed the application of the hot iron in the two cases reported above, Prof. Gross determined to try the same remedy in this instance. In the latter part of February the actual cautery was accordingly applied in the upper part of the lumbar region, the patient having been put under the influence of chloroform, and the issue thus produced was kept open by the use of savine cerate. The application was promptly followed by decided improvement. The patient wet his bed only twice during the six weeks succeeding the operation, and then probably in consequence of having committed some indiscretion in his diet. His urine, which was examined by Dr. Lodge about a week after the application of the cautery, was found to contain under the microscope but few uric acid crystals, but more oxalate of lime and epithelial scales; its reaction was acid; it did not exhibit any perceptible sediment, but had an abundance of mucus mixed with it. At present, in the early part of April, the cure can be considered as almost perfect; the patient, on waking up in the morning, finding his bed always clean and dry.

Clinical Remarks.—In presenting the cases reported above, to his class, Professor Gross made the following observations: Incontinence, or involuntary discharge of urine, is an affection liable to occur at any period of life, and may be either partial or complete, temporary or permanent. Some writers distinguish an active incontinence, where the necessity of voiding the urine is felt, but the will exercises no control over the discharge; a passive one, without any perception of this necessity; and a spasmodic one, resulting from great irritability of the neck of the bladder.

Incontinence, strictly so called, results from a condition of the bladder and urethra the reverse of that of retention. For, while retention is produced whenever the action of the bladder is weakened and the resistance in the neck of the bladder and urethra is increased, incontinence, on the contrary, originates either from the expelling power of the bladder being augmented while the resistance in the urethra is not proportionally increased, or from the resistance being lessened while the expelling force continues the same. Incontinence may, however, be associated with retention. This is the case when the disease depends upon weakness and paralysis of the bladder. Owing to the fact that the sphincter muscle generally retains some contractile power, more or less of the urine is apt to accumulate in the bladder, while the rest gradually passes off, leading thus to a belief, on the part of the practitioner, that the case is one purely of incontinence, when, in fact, it is one both of incontinence and retention. An illustration of incontinence from paralysis of the bladder will be found in the first of the cases reported above, in which the disease followed a severe fall upon the back. Thus, any direct injury, as a serious contusion of the abdomen, pelvis, or perineum, may induce paralysis of the bladder, or of this viscus and the urethra, and, consequently, incontinence. Sometimes the affection is owing to some disorder of the sacro-lumbar nerves. In the latter months of pregnancy, as well as during protracted parturition, the neck of the bladder is sometimes paralyzed by the pressure of the child's head, and the incontinence thus produced may last a long time. This affection is occasionally met with in fever, in concussion of the brain, in injury of the spinal marrow, in hysteria, epilepsy, and other nervous diseases. Old men who have led irregular and dissolute lives, and who have labored long under disease of the urinary passages, are very prone to suffer from incontinence of urine.

In the treatment of incontinence from paralysis, our remedies must be chiefly addressed to the invigoration of the nervous system. For this purpose, after having cleared out the bowels and corrected the secretions, the patient is put on the use of strychnia, either alone or combined with some mild tonic, such as extract of cinchona and sulphate of iron. Cantharides may also be advantageously given, especially if they be carried to the extent of slight strangury. The diet should be light, and the patient should make frequent use of the cold shower-bath, followed by dry frictions. Counter-irritation is kept up in the sacro-lumbar region either by a succession of blisters, tartar emetic ointment, the moxa, or, in obstinate cases, by that most powerful counter-irritant, the actual cautery.

Incontinence may arise from a *morbid sensibility* of the neck of the bladder, or of the entire organ. A peculiar variety of this form of the disease is the nocturnal incontinence which occurs in *young subjects*, and of which the third of our cases affords an example. It is most common in children before the period of puberty, and often begins at a very early age. The discharge, which may take place twice or even thrice during the night, is sometimes effected under the influence of the will or a dream, but in general it is strictly involuntary. When it becomes habitual, as in fact it usually does, it may last for years, and be even prolonged into advanced life, though in most cases it gradually disappears on the approach of adolescence. It is promoted by the use of fluids, by exposure to cold, and by sleeping on the back, a posture which is favorable to the accumulation of urine in the morbidly sensitive portion of the bladder.

The pathology of this affection consists in an exaltation of the natural sensibility of the mucous membrane of the neck of the bladder, unaccompanied, in many cases, by any appreciable change of structure. Sometimes there is slight thickening of the part, and occasionally the affected surface is somewhat inflamed. In protracted cases, there may be hypertrophy of the prostate gland, though never to any considerable extent. The sphincter of the bladder is easily relaxed, and yields to the most trifling impulse; hence the urine often flows off even when there is no fullness or distention of the organ.

Morbid irritability of the neck of the bladder, or of the entire organ, giving rise to incontinence of urine, may be excited by the acid character of the urine, or by sympathy with the kidneys, rectum, anus, vagina, or uterus. Worms in the lower bowel, hemorrhoidal tumors, and fissure of the anus, are often attended with incontinence. Masturbation or inordinate sexual indulgence, by establishing a morbid sensibility of the mucous membrane of the neck of the bladder or commencement of the urethra, may be followed by the same result. In most of these instances, the incontinence is incomplete.

In the treatment of incontinence arising from morbid sensibility of the bladder or its neck, particular inquiry should be made into the nature of the exciting cause, the removal of which is of paramount importance. In that variety of the affection which is met with in boys and girls, the cure may be greatly expedited by proper attention to the diet, which should always be bland and unirritating. Late suppers are avoided, and the patient must abstain entirely from drinks for several hours before going to bed. During the night, he is to be waked two or three times for the purpose of emptying his bladder, and this practice is to be persisted in for weeks, and even months, until the disagreeable habit is broken up. During all this time, as well as indeed for a long period afterwards, the child should lie upon his side, to prevent the urine from coming in contact with, and irritating the neck of the bladder. The internal remedies, from which Professor Gross has derived most benefit in the treatment of this affection, are strychnia and cantharides; of the latter he prefers the powder to the tincture, and occasionally continues the exhibition of it until slight strangury is induced. He often combines with these articles a minute portion of morphia, and, in atonic cases, some of the preparations of iron. Benzoic acid has been highly recommended, but the trials he has made with it have disappointed his expectations. Belladonna, which owes its reputation in the treatment of this affection to the recommendation of Dr. Trousseau and Dr. Blanche, of Paris, he has found more reliable. A steady persistence in the treatment for several months is necessary to insure a cure. When the morbid sensibility of the bladder is connected with inflammation, the balsam of copaiba, in moderate doses, and some full anodyne at night, especially in the form of Dover's powder, often exert a happy effect in controlling the discharge. As auxiliary measures, the cold shower-bath should be used once or twice a day, or cold water poured from a considerable height upon the lower portion of the spine, and blisters applied to the sacro-lumbar region, the perineum, or the inside of the thighs. In obstinate cases, the neck of the bladder is cauterized, as in spermatorrhœa, but much more mildly, on account of the more tender age of the patient. In the female, the application is made to the orifice of the urethra. Sometimes great benefit results from the use of anodyne enemata and suppositories. The application of pressure to the urethra, gentle but steady, and gradually increased, has sometimes been found beneficial in removing this complaint. When the incontinence depends upon the morbid sensibility of the urethra and neck of the bladder, such a proceeding is worthy of trial, especially where the more ordinary means have failed. When the tender surface is situated behind the scrotum, the probability is that the pressure of a truss, resting upon the perineum, might be serviceable. The pad should be placed directly over the middle line, and should bear so firmly upon the parts as to occlude the urethra. Tying up the penis, of course, is a proceeding which no sensible man ever would think of at the present day. That the application of the actual cautery to the sacro-lumbar region is worthy of trial in obstinate cases also of this form of incontinence, the experience of Professor Gross, in the cases reported above, seems to prove.

Of the morbid conditions of the bladder which may give rise to incontinence, *inflammation* deserves a share of attention. It may depend upon various causes, as external violence, the extension of gonorrhœa, stone in the bladder, and stricture of the urethra. The escape is usually partial, and is almost constantly associated with spasm.

The treatment consists in removing the exciting cause, which is frequently of itself sufficient to effect a cure, and in the employment of the lancet, the hip-bath, antispasmodics, and anodyne injections. The catheter often affords instant relief.

Of incontinence from *external injury* the best example is afforded in lithotomy. A kick, blow, or fall upon the perineum is occasionally followed by a similar result. Incontinence from this cause often disappears spontaneously; and, on the other hand, it is occasionally incurable. The treatment must be conducted upon general principles.

Incontinence, like retention of urine, is occasionally of a *periodical* nature, resembling, in this respect, an attack of intermittent fever, only that it is not preceded by chills, or followed by sweats. One of the best marked examples of this variety of the affection came under the observation of Professor Gross in 1849, in a young man, twenty-two years of age, a bar-keeper, of sanguine temperament, and perfectly regular habits, who, after having retired one evening, in his usual health, was seized, while asleep, with a discharge of urine, which caused him to wet his bed, and which returned afterwards, with great regularity, every night, at a certain hour. He had never suffered in this way before, and he could assign no reason for the attack. His general health was excellent, his urine normal; he was free from pain, but complained occasionally of a sense of weight and uneasiness in the neck of the bladder. When the patient applied for relief, the affection had existed for a fortnight. Professor Gross put him on the use of quinine, of which he took seven grains combined with the eighth of a grain of sulphate of morphia, every eight hours; the treatment was followed by prompt and permanent relief. A very instructive case of this form of incontinence, associated with inflammation of the neck of the bladder, and unequivocally dependent upon a miasmatic cause, is related by the late Dr. William M. Boling, of Montgomery, Alabama, in the *American Journal of the Medical Sciences* for July, 1844.

When the incontinence is irremediable, the patient should wear a urinal, to prevent the fluid from soiling his clothes. The best contrivance for this purpose is a gum-elastic bottle, shaped somewhat like a Florence flask, capable of holding about twelve ounces, and furnished at its inferior extremity with a screw for the purpose of evacuating the urine after it has accumulated to some extent in the artificial reservoir.

II. *Case of Abscess of the Prostate Gland.**—Thomas A., aged forty-eight years, of intemperate habits, entered the surgical wards of the Philadelphia Hospital on the 3d of March, 1860, on account of some trouble of the urinary organs. He was robust, and otherwise healthy, not having had, according to his declaration, any sickness since childhood, except an attack of gonorrhœa twenty years ago. At the time of his entrance he complained of not being able to evacuate the contents of his bladder, it having been necessary to introduce a catheter occasionally for that purpose. The following are the facts connected with the history of the case: During the spring of 1859, one year ago, while working in the water of the fisheries of the Delaware, the patient first noticed some obstruction to the passage of his urine, with itching at the head of his penis, and a more or less frequent desire to empty his bladder. Thus he continued during the summer and autumn, the inconvenience not being sufficient to cause him to quit his labors; the only progress the disease appeared to make was a very gradual diminution of the stream of urine, he having to wait some time for the flow to commence. The volume of the stream had so diminished when he came into the hospital, that it was with great difficulty that the bladder was emptied. On the sixth of March, three days after his admission, he had an attack of retention, for the relief of which the catheter was introduced and the urine removed. On the eighth it was necessary to use the instrument again, and, while at the prostatic portion of the canal, it came in contact with a yielding obstruction, but a little force being used, it passed into the bladder. The urine having been removed, the instrument was withdrawn to where the obstruction was felt, when from six to eight ounces of thick, cream-like pus passed through it. The instrument was inserted as far as the abscess twice in twenty-four hours during the next week or ten days, always with the effect of removing an ounce or two of pus. At the place where the abscess had broken, a cavity could be distinctly felt with the point of the instrument. The discharge gradually diminished in amount until the end of two weeks, when it had nearly ceased. The urine of the patient, examined soon after his admission, was slightly acid; some days after the opening of the abscess it was phosphatic, alkaline, and cloudy, and deposited some muco-purulent matter on standing. After the evacuation of the abscess the bladder was readily emptied by its own effort, the stream being of normal volume; the only symptom the patient complained of was some pain while the urine was passing over the site of the affection, which, however, ceased about three weeks afterwards.

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* For notes on the history of this case, and of case IV., we are indebted to Dr. John W. Lodge, resident surgeon of the Philadelphia Hospital.

In connection with this case it must, finally, be stated that the patient never suffered from symptoms of acute prostatitis. According to his own account he had no pain in the perineum, at any time, nor any tenesmus, his bowels having always been regular. Defecation was easy, and there was no fever, nor any other serious disturbance of his health.

Clinical Remarks.—In presenting the case reported above to his class, Professor Gross made the following remarks: The formation of abscess of the prostate is not always announced by characteristic phenomena, and hence it not unfrequently happens that the first intimation which the patient and his attendant have of the real nature of the case is a sudden discharge of pus along the urethra, consequent upon the introduction of the catheter or a violent effort at micturition. In general, however, the formation of matter is announced by well-marked local and constitutional symptoms. There is exceedingly violent pain, which assumes an aching, throbbing character; there is a sense of weight and pressure at the neck of the bladder; the patient has almost a constant desire to void his urine, which is discharged with much difficulty, and either in drops or in a small and feeble stream; the urethra is the seat of a scalding or burning sensation; the rectum feels as if it were distended by a foreign body; and more or less uneasiness is experienced in all the associated organs. In some instances the local suffering is of the most agonizing description, depriving the patient of appetite and sleep, and rapidly undermining the vital powers. Complete retention of the urine occasionally supervenes. Along with these symptoms there are generally severe rigors, alternating with flushes of heat, intense thirst, excessive restlessness, high fever, and even delirium. When this combination of phenomena exists, there can hardly be any doubt about the nature of the case, especially if the individual has previously labored under acute or chronic prostatitis. An examination by the rectum will afford additional light, and will often detect fluctuation, more particularly if the matter occupies the posterior part of the gland. At an advanced stage of the complaint, the abscess may point in the bowel or in the perineum, and thus remove all doubt respecting the diagnosis.

Any part of the prostate may become the *seat* of abscess. The middle lobe, however, is less liable to suffer than the rest of the organ, and often escapes entirely, even when the latter is nearly destroyed by it. The matter may be seated upon the surface of the gland, immediately beneath its fibrous capsule, in its proper parenchymatous structure, or in its excretory ducts. Occasionally it exists simultaneously at all these points. Abscesses of the prostate vary much both in their *number* and *size.* Sometimes, and this is what happens most frequently, there is only one, while at other times there are as many as from six to twenty, scattered through the substance of the organ, and giving it, when their contents are removed, a riddled, sieve-like appearance, not unlike that of the cribriform lamella of the ethmoid bone. Under such circumstances it is not unusual for several of them to communicate together. When numerous, their dimensions are generally proportionally small, not exceeding, perhaps, the volume of a millet-seed or a pea. Cases, in which a solitary abscess of unusually large size existed, are reported by Sir Benjamin Brodie, and by J. L. Petit, (*Œuvres Chirurgicales*, t. iii.) When the abscess is of long standing, or slow in finding an outlet, it is generally, no matter what may be its size, surrounded by a cyst of a pale, yellowish color, smooth internally, rough and flocculent on the outside, dense in texture, and from the fourth of a line to a line in thickness. The contents of such a depot do not differ essentially from those of a common phlegmonous abscess in other parts of the body. In general, they are of a light straw color, and of a thick, cream-like consistence, free from odor, and possessed of all the properties of laudable pus. Sometimes, however, they are more or less bloody, or sero-sanguinolent, and intermixed with lymph, mucus, and the debris of the affected gland. Occasionally, especially when it is long retained, the matter is excessively fetid. The structures around the abscess are infiltrated with serous and other fluids, more or less softened, and of a brownish or reddish appearance, from the injected condition of their capillaries. When the purulent depots are numerous, they are sometimes entirely disorganized, and converted into a substance closely resembling tow. A common and almost a necessary effect of abscess of the prostate is the formation of a cavity, which is often more serious in its consequences than the abscess itself.

Abscesses of the prostate open in different directions, as the urethra and the bladder, the rectum, the perineum, and the peritoneal cavity. The most natural, though at the same time the most unfortunate direction, as it respects the affected structures, in which the collection opens, is into the urinary bladder, or the orifice of the urethra, from which the matter is subsequently discharged along with the urine. Sometimes the abscess points and breaks almost simultaneously at both these situations. When it is bulky, a large quantity of pus may thus be evacuated at once; or it may drain off slowly and almost imperceptibly. In the former case the matter may be discharged in a pure state, or it may be mixed with the urine, which will then be of a lactescent, whitish, or grayish appearance, and perhaps more or less offensive; in the latter, the urine will exhibit little if any change, and deposit merely a thin, whitish sediment, visible at the bottom of the receiver. The matter may be evacuated into the rectum, and be discharged either alone or in union with the fæces. This mode of communication is by no means uncommon, and is almost certain to occur when the abscess is developed in the posterior part of the gland. The abnormal opening, situated at a variable height from the anal outlet, is generally within reach of the finger, and often continues fistulous a long time, permitting a ready interchange of the contents of the two reservoirs. The disease, in this case, is frequently complicated with inflammation and suppuration of the seminal vesicles and the adjacent structures. In the third place, the pus may escape externally by inducing ulceration of the structures of the perineum. The progress of the fluid is indicated by excessive pain in the part, and by a hard, red, circumscribed swelling, which finally points and breaks. In some instances, the matter escapes into the surrounding cellular tissue, and extends upward to the scrotum and even to the penis, following the same course as the urine when it is infiltrated into the perineum. Finally, the abscess may burst into the peritoneal cavity, at the side or posterior part of the prostate, and so cause fatal inflammation. The occurrence, which is fortunately very rare, is announced by severe pain in the pelvic region, a small, quick, and contracted pulse, violent rigors, and rapid prostration of the vital powers. Death usually occurs in from thirty-six to forty-eight hours.

Such are the various points at which the matter of a prostatic abscess may ultimately find an outlet. Of these the first is, as previously stated, the most natural as well as the most frequent, but also at the same time the most undesirable one, as it involves a greater amount of risk to the patient, from the contact of the urine with the cavity of the purulent depot after the escape of its contents. In this way an additional cause of inflammation is produced, which often operates to the destruction both of the part and the system. The passage of the matter across the perineum is uncommon, though the contrary has been asserted by Sir Benjamin Brodie, and is always attended with great delay and immense suffering, on account of the resistance offered by the fasciæ and muscles in this region. The escape of the pus through the rectum is unfortunate, as it frequently entails an obstinate fistule; but the most disastrous route of all is that in which the contents of the abscess pass into the peritoneal cavity, and excite inflammation.

Abscess of the prostate occurs at all periods of life, though not with equal frequency. Young men and adults are most prone to it; on the contrary, it is very rare in childhood and old age. Mr. Mayo records, in his *Outlines of Human Pathology*, an interesting case of it in an infant of two years. The abscess was of large size, and communicated by a considerable orifice with the urethra. The exciting causes of the disease are the same as those of inflammation of the prostate, such as gonorrhœa, stricture of the urethra, venereal excesses, external injury, and suppression of the cutaneous perspiration. It is not known what influence, if any, is exerted upon the production of this complaint by occupation, season, climate, and other circumstances. It is supposed by many, and not without reason, that chronic enlargement of the prostate, and the arthritic diathesis powerfully predispose to its occurrence.

Abscesses of the prostate are sometimes of a scrofulous nature. Professor Gross observed an instance of this kind, in a lad about fourteen years old, a subject in the dissecting-room. He was very tall and slender for his age, and the abscess, which was less than a grain of coffee, occupied the posterior extremity of the left lateral lobe, and was filled with softened tubercular matter. The gland was in other respects perfectly healthy. No history of the case could be obtained. Scrofulous abscesses are necessarily chronic and insidious in their character.

Abscess of the prostate is generally to be regarded as a dangerous affection. The local suffering, if not promptly subdued by a natural or artificial outlet for the pent-up fluid, is of itself sufficient, in many cases, to bring on serious, if not fatal, exhaustion. It behooves us, therefore, to be always guarded in our prognosis. Even under the most favorable circumstances, and where there is apparently little danger from the immediate ravages of the malady, the patient may fall a victim to its secondary effects. One of the worst consequences of this affection is a fistulous communication with the rectum, the urethra, the perineum or urinary bladder, which it is sometimes impossible to heal, and which renders the individual alike uncomfortable to himself and disagreeable to those around him. A large abscess is, of course, all other circumstances being equal, more dangerous than a small one, and a number of small ones than a solitary small one. The prognosis, moreover, will be materially influenced by the patient's habits, his age, and his previous health.

In the *treatment* of this affection, two important indications are presented: first, to limit the suppuration; and, secondly, to afford a speedy outlet to the effused fluid. To fulfill the first, prompt recourse must be had to depletion, provided this has not already been carried sufficiently far, to antimonials, diaphoretics, anodynes, and emollient applications. Leeches should be applied to the perineum and hypogastrium. In order to fulfill the second indication, the rule is to anticipate nature by an artificial opening. If the abscess point toward the perineum, an incision should be made in the most prominent part of the swelling, with a long, straight, narrow-pointed bistoury, care being taken to avoid, on the one hand, the rectum, and, on the other, the bladder. When the abscess points in the rectum, it may readily be reached with a long, curved trocar. For some days after the operation the lower bowel should be kept as quiescent as possible. When the abscess bulges inward toward the urethra and the neck of the bladder, it may be punctured with a common silver catheter; or, instead of this, a sound with a conical beak and a small curve may be used. When the abscess is not yet completely matured, and delay would be improper, the operation may be executed with the lanceted stylet. The urine should be frequently drawn off with the catheter, to prevent its entrance and sojourn in the interior of the sac. When the abscess is of a scrofulous character, as indicated by the nature of the pus, the system should be subjected to the influence of iodine and tonics.

III. *Stone in the Bladder; Lateral Operation; Unusually Large Calculus; Cure.**—James Curly, aged thirty years, a native of Ireland, was admitted into the surgical wards of the Philadelphia Hospital, on the 25th of January, 1860. According to his statement, he always enjoyed perfect health until about four years ago. There has been no hereditary taint in his family, and he himself has never had any disease of a specific nature.

In the winter of 1855–6 he enlisted in the U. S. Army, and on his voyage to Texas with his company he had a severe fall on the deck of the vessel, to which he imputes the origin of his trouble. He fell upon his back, bruising himself so severely that he was obliged to be carried down the stairs. A slight fever followed, but not enough to prevent his being present daily at the roll-call. Two weeks after the accident, the fever suddenly increased, and he experienced much pain in voiding his urine, which became thick and bloody. In spite of the medical treatment he received, he grew gradually worse; and when he joined his regiment, five or six months after his fall, the pain in his loins and along the penis was so great, in making water, that he could only do so bent over on his knees; at the same time he suffered from great tenderness in the perineum, and from a constant desire to pass water, causing him to rise often twenty times in one night. He was now subjected to repeated cupping, which had the effect of diminishing the quantity of blood voided with his urine, but did not work any change in the other symptoms. Being totally incapacitated for service, he was discharged in August, 1857. He subsequently passed through the hands of several physicians, who treated him with varying success, the only very marked improvement he experienced being from a course of nitric acid in conjunction with anodynes. In the early part of December, 1859, while working with a farmer, he was very much exposed to cold and wet, and his feet having been at one time severely chilled, he grew rapidly worse, being obliged to micturate every three or four minutes, and suffering from so intense a pain that "he had to stand on his toes and go dancing around the yard." The urine was now of varying color, but never bloody. In January, 1860, he came to this city, and having exhausted his means on divers prescriptions, applied for admission into the hospital. The severity of his symptoms had in the mean time increased, and his urine was constantly running from him. On examining the patient, Professor Gross ascertained the presence of stone in the bladder, and concluded to remove it by an operation. The man was subjected, for a few days, to a preparatory treatment, consisting of rest, abstinence from animal food, and the administration of aperient medicine.

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* For notes on the history of this case, we are indebted to Mr. T. C. Brainerd, a student of the Jefferson College.

The operation was performed on the seventh of February, before a large class of medical students. The interest of the occasion was much increased by the presence of Dr. Morton, of Boston, who administered the ether, prefacing it, at the request of Professor Gross, with an account of his discovery of this anæsthetic agent, and its first public trial in the Massachusetts General Hospital. Professor Gross, assisted by his colleagues, Drs. Agnew, Levis, and Kenderdine, made the lateral section, the only instrument used for the incision being a sharp-pointed bistoury. Two stones were found in the bladder, one of which, about an inch and a half in diameter, was removed entire; the other which was very much larger, broke into innumerable fragments, which were taken out principally with the scoop. The weight of the whole mass amounted to upwards of six ounces. It consisted principally of lithic acid. After the removal of the stones, the bladder was washed out with water from a large syringe. Owing to the very vascular condition of the parts concerned the hemorrhage was considerable. Persistent efforts were made for some time to control it with ligatures, but in vain; recourse was then had to the tampon.

On recovering from the anæsthesia, the patient "felt at once that his trouble was gone." He slept well on the ensuing night, and his bowels were moved naturally and freely four days afterward. At the end of three weeks, the urine first appeared by the natural passage, but did not cease to flow by the wound entirely until the thirteenth of April, by which time the perineum was almost completely cicatrized. The presence of the tampon had evidently greatly retarded the healing of the incision. Not a drop of blood appeared after the tampon was removed.

To improve his general health the patient is at present taking the tincture of the chloride of iron, twenty-five drops three times daily. He feels well; better than he has for four years.

IV. *Stricture of the Urethra; Urinary Abscess; Pyæmia; Death.*—John G., twenty-two years of age, was admitted into the surgical department of the Philadelphia Hospital, on the 28th of January, 1860, suffering with a rather tight stricture of the urethra; otherwise he was perfectly healthy, there being no symptom of any peculiar diathesis; his general health had always been good. From the patient the following history of his case was elicited:—

About one year ago he had an attack of gonorrhœa, which, after several weeks of treatment, was, as he supposed, cured; but, after the lapse of two weeks the discharge again began, following a protracted debauch.

By the advice of a physician he recommenced his former mode of treatment, which consisted in the use of the copaiba mixture, and injections of sulphate of copper. After the reappearance of the gonorrhœa, there was considerable pain and difficulty in voiding the urine, and acute pain immediately after the injection. Thus he continued with occasional amelioration and relapses until about six months ago, when the discharge and acute pain suddenly disappeared, the difficulty in passing the urine, together with a scalding in the posterior portion of the urethra, still remaining. From this period until his admission into the hospital the symptoms gradually increased, the time required to empty the bladder being considerable, and the urine dribbling away in a thin, spiral stream. The patient being anxious for relief, he was, on the eighth of February, influenced by chloroform with a view of effecting a cure by rapid dilatation. A small-sized metallic bougie was, without difficulty, passed into the bladder; this being immediately withdrawn, one of medium size was introduced with the employment of a little force at the site of the obstruction. After being allowed to remain for a few minutes, it was removed and replaced by a No. 7 silver catheter; this was retained by the double T-bandage, and the patient sent back to his bed. The hemorrhage which followed the introduction of the instruments did not amount to more than one or two drachms. After the operation the patient complained of slight pain and uneasiness in the region of the stricture. On the tenth, two days after the operation, the catheter was removed, cleansed, and readily replaced into the bladder. The patient continued comparatively well, passing his nights comfortably, and having no constitutional symptoms. On the fifteenth of February, seven days after the first introduction of the bougie, he was sent to the amphitheatre for the purpose of having a large instrument introduced, in continuation of the operation of dilatation; there being no suitable one at hand, the patient was carried back to his ward with the directions to have his instrument cleaned and replaced, which was accordingly done. For the three or four succeeding days he continued doing well, until about the twentieth of February, when he complained of a sharp pain in the urethra, and intense itching about the head of the penis. Warm water, medicated with Goulard's extract and opium, was applied with some advantage; the catheter being carefully examined, was found to be held in its proper place. Twenty-four hours after this, the pain in the parts became extremely severe; the patient insisting upon the removal of the catheter, it was finally withdrawn. The system was now very much affected, his skin being dry and harsh, and the pulse frequent, feeble, and irritable, with failure of appetite and rest, and a considerable discharge of unhealthy pus from the urethra. The patient was at once placed upon a suitable plan of treatment. In a day or two the scrotum became red and painful, and enlarged rapidly until fluctuation was detected, when it was opened. The incision was followed by the discharge of eight or ten ounces of urine, mixed with intensely fetid pus. Through the opening thus made, all the urine was afterwards evacuated. Abscesses were now developed in the supra-clavicular fossa, in the belly of the biceps muscle, and at one or two other points on the surface; they were successively opened, with manifest relief to the general symptoms. As soon as the case began to assume an alarming character, the patient was placed upon the use of tonics and stimulants, such as the tincture of the chloride of iron, alternated with carbonate of ammonia, milk-punch, and anodynes. But in spite of the supporting treatment, he continued to decline; the pulse became shattered and gaseous; the skin being covered with a cold, clammy sweat; and death occurred on the seventeenth of March, with all the symptoms of extreme prostration.

On examining the body after death a large abscess was found at the posterior extremity of the bladder, in the cellular tissue beneath the peritoneum where the membrane was reflected from the bladder to the rectum. The bladder itself was perfectly sound, but its cavity was empty and much contracted. A fistulous track extended from the right side of the membranous portion of the urethra, the former site of the stricture, through the perineum into the scrotum, and thence into the right groin. Along this route all the urine had been discharged. Both kidneys were remarkably congested, and occupied by an immense number of abscesses, varying from the size of a pin's head to that of a very small pea. They were equally scattered both through the tubular and vascular structures, and quite a number were seated just beneath the fibrous capsule.

The large abscess on the left side of the neck was situated beneath the collar-bone, which was almost completely deprived of periosteum, and matter had also formed in the sterno-clavicular articulation, the cartilage of which had entirely disappeared, leaving the opposed surfaces rough and discolored.

Clinical Remarks.—Professor Gross said one of the most serious effects occasionally witnessed, as the result of operations upon the urinary organs, especially the urethra and the neck of the bladder, is *pyæmia*, or the formation of matter in the joints, muscles, veins, cellular tissue, kidneys, liver, lungs, and other structures. The patient is seized with rigors, which, after having continued for a variable period, are followed by profuse sweats and a sense of excessive prostration. The disease, in fact, at its commencement, frequently resembles an attack of ordinary intermittent fever, the paroxysm sometimes recurring with the same degree of regularity once or twice in the twenty-four hours. Occasionally, again, it closely simulates an attack of gout or rheumatism, especially when there is intense pain in the joints and limbs. In whatever manner it makes its appearance, the case soon assumes a most threatening character. The pulse becomes small and frequent, the appetite declines, the tongue is covered with a brownish fur, the stomach is irritable, the bowels are costive, the urine is scanty and high colored, and there is excessive thirst, with constant restlessness and great anxiety of mind. Delirium and stupor generally set in at an early period, and constitute prominent phenomena of the complaint. The symptoms now described may come on within a few hours after the operation, of which they are the consequence; but, in general, they do not show themselves under two, three, or four days—at all events, not with any degree of severity. They soon assume a typhoid character, and few patients survive beyond a week, ten days, or a fortnight. The formation of matter in the external structures is usually preceded and accompanied by an erysipelatous blush of the skin, by exquisite tenderness of the part, and by great impediment in motion. The pus, which often exists in considerable quantities, either as a simple collection or in the form of distinct abscesses, is commonly of a sanious and unhealthy character, presenting the aspect rather of imperfectly elaborated lymph than of genuine matter; in some instances, it is highly fetid. The structures which are most liable to suffer are the joints, as the knee, ankle, hip, and shoulder, the muscles and cellular tissue of the extremities, the perineum and scrotum, the cellular substance and veins of the pelvis, the liver, lungs, spleen, and kidneys. The number of abscesses is sometimes very great, and, when this is the case, they are always proportionably small.

Considering the subject of pyæmia only in regard to its occurrence after operations on the urinary organs, we refrain from discussing the different theories advanced on the pathology of the disease. The most plausible one, perhaps, is that which attempts to account for the formation of purulent deposits by supposing that they are caused by the development of a peculiar poison, derived from certain kinds of fluids, purulent or other, which, entering the circulation, contaminate the blood and solids, and thus bring about that adynamic and atonic state of the system so characteristic of pyæmia. It is not improbable that this poisonous matter, whatever may be its nature, soon after its admission into the circulation, excites inflammation in the capillary vessels, as well as in some of the larger veins, rapidly followed by deposits of fibrin and pus, or the development of purulent collections. The coagula, so often met with in the veins of those who die of this disease, are a direct result of this inflammation, their formation being favored by the plasma thrown out by the inner surface of the affected vessels. Thus, it is not unlikely that the first link in the chain of morbid action in this affection is a poisoned and disorganized state of the blood; the second, the development of inflammation in the capillaries and veins; the third, the formation of adherent coagula, clots, or concretions; and the last, as the necessary and inevitable effect of the others, a deposition of pus, or pus and fibrin.

In treating of the injurious effects of operations on the urethra, we must mention another class of cases in which the symptoms produced are principally of a *nervous* character. It is well known that patients, especially such as are very nervous and irritable, occasionally suffer most violently from the most trifling operations upon the urinary organs, the mere passage of a bougie, sound, or catheter inducing violent rigors, excessive prostration, and other unpleasant symptoms. Indeed, quite a number of cases are upon record, in which death was produced by this cause, even when there was no severe disease. M. Velpeau relates, in his *Leçons Orales de Clinique Chirurgicale*, a case in which the passage of a bougie was followed, the day after the operation, by symptoms of tetanus. The patient had a violent chill the evening after the introduction of the instrument, which, as the stricture was very slight, was effected without difficulty; and he expired twenty-four hours after the appearance of the first signs of the disease. At the autopsy, the urinary organs were found to be perfectly healthy, and nothing whatever could be discovered to account for the fatal termination.

If we consider how great the natural sensibility of the urethra is, it is not surprising that the contact of a bougie, however slight, should occasionally be followed by great pain in the part, nervous prostration, and other disagreeable effects. Fortunately, all persons are not constituted alike in this particular, otherwise these effects would be of much more frequent occurrence than they are found to be in practice. The treatment of stricture, however, is peculiarly liable to be attended with pain and other unpleasant symptoms, owing to the fact that many, if not most of the subjects of this disease, are remarkably prone to derangement of the general health, and, therefore, easily affected by the most trivial operations performed for its relief.

In regard to the treatment of these nervous symptoms, much may be done to prevent them in cases where their occurrence is apprehended, by the use of chloroform; but where they are unavoidable, no time should be lost in moderating and relieving them. Promptness of action is here, indeed, of the greatest importance, for upon it often depends the safety of the patient. The treatment is plain and simple. From one to two grains of morphia, according to the age and condition of the patient, are given at a single dose, along with a liberal quantity of brandy, or brandy and spirits of camphor—a combination which is peculiarly soothing both to the part and system—the extremities and even the spine are covered with sinapisms, and cloths, wrung out of hot water and laudanum, are steadily maintained upon the genitals, the perineum, and the hypogastrium. If undue reaction takes place, abatement may be sought with the lancet and tartar emetic, or calomel and ipecacuanha; but these remedies must be employed with great caution, otherwise they may induce injurious debility.

Arthritic symptoms, and the formation of matter in the cellular tissue, joints, veins, muscles, and viscera, must be met by leeches, blisters, iodine, and warm fomentations, medicated with laudanum and acetate of lead, and by the internal use of calomel and opium, aided, if necessary, by suitable stimulants, as carbonate of ammonia, quinia, wine, brandy, and porter. Superficial abscesses must be opened by early and free incisions, both to relieve pain and to prevent further contamination of the system. But, unfortunately, as already intimated, no mode of treatment, however early or judiciously employed, can avail much under such circumstances, death being the lot of almost every patient thus affected.

V. *Case of Senile Gangrene.*—Benjamin S., a colored man, seventy years of age, was admitted into the surgical wards of the Philadelphia Hospital, on the 12th of January, with mortification of the large and small toe of the left foot. The patient had kept a stand for the sale of oysters in the street, and had been exposed to cold weather for several weeks past. When, therefore, about a fortnight before his admission, he commenced to feel a sharp, burning pain in the affected toes, he thought that it was owing to frost-bite, and applied some popular remedies for the cure of that affection; finding no relief, he entered the institution. At the time of his admission, the affected toes were found to be perfectly numb, cold, shriveled, and black; the parts adjoining them were slightly swelled, but otherwise natural; the patient complained of an acute, stinging pain in the affected parts, and of a sense of weakness. On examining the pulse at the wrist, it was found that the radial artery was completely ossified, and did not convey the least impression of any vibration to the finger. The general health of the patient had hardly suffered, his appetite was tolerably good, his bowels regular; the action of his heart was slightly increased, but otherwise natural; and he was altogether in a condition apparently justifying operative interference. The affected toes were amputated through the sound parts, and the wound was dressed with a poultice; two days afterwards, however, the stitches began to excite ulceration; erysipelas developed itself, and spread upward along the tibia; an abscess formed on the inner side of the leg, at the commencement of its lower third; on opening it, about an ounce of unhealthy pus was discharged. The patient was put on the use of tincture of chloride of iron and sulphate of quinia, and a lotion containing sugar of lead and laudanum was applied to the parts. Under this treatment, the erysipelas subsided in about a week; the wound, however, assumed a foul appearance, turned black, and discharged an extremely fetid, ichorous matter; the acute, burning pain spread over the adjoining parts, and in about two weeks after the amputation signs of mortification commenced to show themselves in the remaining toes. The suffering of the patient was now intense; his appetite failed, his tongue became coated and brown, his bladder was irritable, the urine scanty and high colored, and the action of the heart feeble and quick. Stimulants, such as milk-punch and carbonate of ammonia, were now administered alternately with the tonics; the sloughing parts were dressed with the nitric acid lotion and a yeast poultice, and a grain of morphia was given every night. Within a few days the toes became completely black, shriveled, cold, and insensible, and dropped off one after another, leaving a foul, sloughing stump, no line of demarkation having been formed. In spite of a very supportive treatment, the strength of the patient continued to decline; he became delirious, comatose, and is now, six weeks after his admission, in a dying condition.

Clinical Remarks.—The case under consideration, remarked Prof. Gross, is evidently one of senile gangrene, a form of chronic mortification which is most common in elderly persons. It is the same disease which was so admirably portrayed, for the first time, by Percival Pott, of London, under the appellation of mortification of the "toes and feet," and which, for this reason, was formerly known by this name. The *cause* of this disease was not, until recently, at all understood. Mr. Cowper, the anatomist, had, it is true, advanced the idea, now become general, that it was owing to ossification of the arteries, but his researches had not been conducted upon a sufficiently extensive scale to justify the positive conclusions which modern observation has so fully established. The result of the dissections made by Professor Gross is decidedly in favor of this view. Ossification of the arteries, however, is merely a predisposing, and not the immediate cause of the lesion, which consists in the formation of fibrinous clots closing up the calibre of the arteries, and thus mechanically intercepting the passage of the blood. Professor Gross has ascertained that the principal obstruction occasionally exists at a considerable distance from the seat of the disease. Thus, he has found the occlusion limited altogether to the femoral artery, the popliteal, or the commencement of the tibial and fibular. In most cases, however, it affects also the smaller branches. The concretions generally exist in various degrees of development, from recent coagulation of the blood to complete organization; hence, while some can be easily detached, others are firmly adherent to the sides of the vessels. What the immediate cause of these clot formations is has not been determined. It has been alleged that it is owing to the interception of the fibrin of the blood by the roughened walls of the arteries consequent upon their calcification; but the view of Professor Gross is, that it is due to an effusion of plastic matter, the result of chronic inflammation of the serous membrane, thereby favoring the adhesion of the blood and its conversion into clots.

Senile gangrene generally begins as a little bluish or purple speck, not larger, perhaps, than a mustard-seed, upon the inside of one of the small toes, which is soon succeeded by a minute vesicle, filled with a serous, ichorous, or sanguinolent fluid, and which, bursting, exposes a black surface beneath, perfectly cold and insensible. This spot gradually spreads in different directions until it involves the foot as high up, in many instances, as the ankle, or even the middle of the leg, although, in general, the patient dies long before it reaches that situation. Occasionally, the mortification begins at several toes simultaneously, or in pretty rapid succession; and Professor Gross has met with some cases where it first showed itself upon the heel and instep. However this may be, the part always exhibits a characteristic appearance; it is perfectly dry and withered, cold, insensible, odorless, or nearly so, and as black as charcoal, the limb looking as if it were unnaturally small, as, in fact, it generally is. During the progress of the mortification, especially if this be somewhat rapid, the skin has occasionally a mottled, purplish aspect, owing to the coagulation of the blood in the superficial veins.

The disease is usually preceded and accompanied by pains in the toes and foot, darting about in different directions, and liable to nocturnal exacerbations, preventing sleep, and rapidly undermining the general health. These pains, which are of a burning, scalding, or stinging character, are often referred by the patient to the effects of gout or rheumatism, particularly if he was formerly subject to attacks of that nature; they always increase with the spread of the malady, and demand the free use of anodynes for their suppression. The dependent posture commonly aggravates them, but, in a case which Professor Gross saw not long ago, with Dr. Levis, of this city, the suffering was immensely increased whenever the limb was elevated even for a few moments, and where, consequently, the patient, an old man of eighty-three, was constantly obliged, during the day as well as during the night, to let his foot hang down. In some instances, the attendant pain is extremely slight. Considerable swelling is sometimes present in the part, above the site of the mortification; and cases occur, although they are rare, in which the whole extremity is oppressed with œdema, being exquisitely sore, of a pale rose color, and pitting deeply under pressure. Well-marked constitutional symptoms attend this complaint, usually from the very first, and sometimes even before there is any local evidence of its presence. They are either of an asthenic type from the beginning, or they soon become so. The pulse is feeble and upwards of 120 in the minute, quick, sharp, and irritable. The tongue is coated with a brownish fur, dry, and more or less tremulous; the appetite is impaired; the bowels are costive; the alvine evacuations are fetid; the urine is scanty and high colored; the sleep is interrupted by pain and frightful dreams; the strength rapidly declines, and the patient gradually dies from sheer exhaustion, the period between this event and the commencement of the attack varying from six weeks to three or four months.

This form of gangrene occurs in both sexes, and probably with nearly equal frequency, although it was formerly supposed to be more common in men than in women. It is observed in all classes of individuals, the rich and the poor, the idle and the industrious, the temperate and the dissipated. Mr. Pott was of the opinion that the disease was peculiar to the old, but subsequent experience has shown that it may take place at different periods of life; and within the last fifteen years a number of cases have been reported where it occurred in children under ten years of age. It has been conjectured that a gouty and rheumatic temperament predisposes to the development of the affection, and there are numerous facts upon record which would seem to countenance such an idea. Again, it has been asserted that particular modes of life, as indolence and huge feeding, powerfully contribute to its production.

From the form of chronic mortification which we are now considering few patients recover. If occasionally one escapes, it only forms an exception to the general rule. In most cases the disease proceeds steadily, or, with occasional temporary interruptions, to a fatal termination. Now and then, when the powers of life are not too much exhausted, nature makes an effort to arrest the morbid action by the formation of a line of demarkation, and, this succeeding, a kind of amputation takes place, followed, after long suffering, by recovery. The event is denoted by the establishment of ulcerative action at the limits of the dead parts, immediately above which the surface exhibits a dusky, erysipelatous blush, very different from what usually occurs in ordinary gangrene. The sloughing process is generally attended with severe pain and the most offensive smell.

Much diversity still exists among authors respecting the proper method of treatment in chronic mortification; some favoring stimulating measures, while others are the warm and avowed advocates of depletion, just as if it were possible in a disease which exhibits such a protean character to lay down any one plan that shall be applicable to all cases. Without attempting to account for these discrepancies, we may state so much as certain, that no one method of treatment is applicable to chronic gangrene, although, as a general rule, the stimulant will be found to be the most reliable. Professor Gross has seen cases where, from the robust state of the individual, and the character of the pulse, no doubt could be entertained about the propriety of the employment, at least to a moderate extent, of antiphlogistic measures, where, indeed, even the lancet and antimony were admissible; but he is quite sure that such instances are comparatively few, and that, even in them, too much caution cannot be exercised in their use. Nine patients out of ten would be injured by this course. The symptoms are generally of a typhoid character from the very beginning of the malady, and not only so, but the disease nearly always occurs in old, worn-out subjects, or in persons who have long labored under depression of the nervous, vascular, and muscular powers, and who are therefore ill prepared to undergo such a plan of treatment with impunity. Tonics and stimulants, judiciously administered, and aided by appropriate measures, constitute the proper means in such cases. Sometimes a "masterly inactivity" is more effective than anything else, the surgeon doing little more than watching the case, and attending to his patient's diet, bowels, and secretions. But, in general, it will be found that a supporting plan of treatment is absolutely necessary to prevent the system from falling into a hopeless state of exhaustion. Quinine, carbonate of ammonia, and the tincture of the chloride of iron, with wine-whey or milk-punch, and opium, are the articles most to be relied upon, and they should be given in such doses as shall be calculated to meet the exigencies of each particular case. Locally, the best remedies are the diluted tincture of iodine, brushed very thoroughly twice a day over the whole of the affected part, and the use of the bandage, applied with moderate force, and kept constantly wet with a strong solution of opium and acetate of lead, Goulard's extract, or hydrochlorate of ammonia. Leeches are usually objectionable, as their bites are sometimes provocative of gangrene; and the same remark is applicable to punctures and incisions. By these means the inflammation of the obstructed vessels may now and then be promptly arrested, and the further extension of the mortification prevented.

When the sloughing process has commenced, the treatment must be conducted upon the same general principles as in the acute form of the malady, only that the local applications should, if possible, be still more mild and soothing. The most eligible remedies are, according to the experience of Professor Gross, the nitric acid lotion, in the proportion of from two to six drops to the ounce of mucilage of gum arabic, or the opiate cerate, for the ulcerated surface, and cloths constantly wet with a solution of chloride of lime for the dead, especially if there be much fetor. As the parts become detached they may be removed with the scissors, but this must be done with the greatest gentleness, as the slightest injury inflicted upon the living tissues is sure to be productive of mischief.

In regard to the question of amputation, it is extremely difficult to give any satisfactory statement. Professor Gross's belief, founded upon considerable experience, is, that we ought scrupulously to follow the practice long ago laid down by surgeons not to interfere until there is a well-marked line of demarkation; and indeed not even then, unless it is perfectly evident that there is sufficient strength of the system to bear the shock of the operation. He has, however, seen several cases where amputation was succeeded by the most happy results before nature had made any attempt to cast off the slough, and that, too, under circumstances apparently not at all promising as it respected the powers of the constitution. Whenever surgical interference is deemed advisable, no means should be spared to support the patient with tonics and stimulants, as upon their judicious use the chances of his recovery will, in great degree, depend. When the operation is performed prematurely, or before the system has sufficiently recovered from the exhausted condition consequent upon the gangrenous action, the disease will generally reappear within a few days after upon the stump, or death will follow from sheer prostration.

VI. *Case of Paralysis of the Inferior Straight Muscle of the Eye.*—John McG., twenty-eight years of age, entered the Philadelphia Hospital, in January, 1860. The patient, who was employed as porter in a store, states that about twelve months ago he fell down three stories through a hatch-way, and struck on his occiput. He was rendered insensible by the fall, and remained so for several weeks. In about two months he had completely recovered from the shock, and was able to walk about again, but has suffered ever since from steady pain in his temples, lightness of the head, and occasionally from pain in his occiput; in addition to these symptoms, he found that the movement of his eyes downward was impossible. On examining his eyes, it was discovered that, although he was able to move them inward, outward, and upward in every direction, he had no control over the inferior straight muscles. The paralysis affected both eyes in an equal degree. When requested to look downward, the patient bent his head upon his breast, but was unable to recognize objects at his feet, as the action of the muscles not affected by paralysis kept the axes of the eyeballs in an unchanged position, or even turned them somewhat upward. For several months after the accident, he had seen objects double, but is at present not troubled any more by diplopia. The pupil of his right eye is more dilated than the left, and responds much more readily to light; the appearance of the eyes is otherwise normal. The patient is affected with presbyopia, but can discern objects near at hand better with his right than with his left eye.

On his admission, the patient was put on the use of blue mass, compound extract of colocynth and jalap, and had blisters applied to the nape of his neck; after repeated purgation his headache diminished. He was now put on the use of minute doses of mercury three times a day, but when Professor Gross left the ward, no change had been effected in the condition of his eyes.

ART. II.—*Account of Remarkable Ovarian Tumors.* By JOSEPH H. WYTHES, M.D., of Jeansville, Luzerne County, Penna.

So much interest has been manifested by the profession, of late years, respecting cystic tumors of the ovary, that any contribution to our knowledge respecting their nature or treatment will doubtless prove acceptable.

It has been the fortune of the writer to meet with a number of such cases, of various kinds and at different stages of development. In two or three instances, tumors, apparently ovarian, as large as a child's head, in one case persistent for four years, have been removed by the use of an ointment composed of extracts of belladonna and cicuta, with ung. hydrarg. and lard—a drachm or two of the extracts with an ounce of each of the others. In another case, where a tumor was so rapidly developed that in a month after it was noticed it had pushed aside the bladder, and acted as a mechanical obstacle to the flow of urine, no treatment I could suggest was of benefit, save for the relief of the bladder and the improvement of the general health.

Two cases were operated on, at the writer's request, by Dr. W. L. Atlee, long celebrated for his attention to this specialty, and in each case with a successful result. Both were multilocular cysts; both had extensive peritoneal adhesions, in one case rendering it necessary to divide them with the knife; and both required a long incision. The weight of one tumor was estimated at thirty pounds; the actual weight of the other, with the contained fluid, was thirty-eight pounds. One of these patients has since been delivered of a fine child, and the other enjoys excellent health.

The two cases which form the subject of the present paper present such peculiarities and suggest so much information, that an extended account of them seems due to the profession. The first is remarkable for the obscurity and complication of its symptoms and its special prolific power, and the second from the success of iodine injections after the failure of an operation for its removal.

CASE 1.—*Proliferous Ovarian Cyst simulating Artificial Anus.*—The patient was a highly intellectual young lady, aged twenty-four, who came under my care in May, 1856. I learned that about four years previously, while attempting to lift a basket of crockery, she was seized with pain in the left inguinal region, followed in a day or two by considerable swelling, which presented all the external appearances of an abscess. After some time a large amount of purulent matter was discharged by the urethra, with some relief to the patient. As the swelling still continued, and appeared to point above the pubes, it was opened at that place with a lancet. At this time she was under the hands of the homœopaths, but becoming dissatisfied, sought advice of several physicians, nearly all of whom seemed to regard it as a case of psoas abscess.

When I first saw her, I found an opening in the abdominal wall, an inch and a half above the pubes, leading into a sinus four inches long, to the left side, along the top of Poupart's ligament, from which both flatus and fæces had been passing for some time, though the most of the fæces passed naturally. On carefully dilating the entrance with sponge tents until I could pass in my forefinger, two small openings in the bowel were readily felt, about one-fourth of an inch in diameter, into each of which an elastic catheter was passed, and the angle made by them observed. It seemed to be a case of artificial anus, yet from its history I could not determine whether it proceeded from a strangulated hernia or an abscess. The circumstance of two openings existing, with the occurrence of the swelling being noticed soon after a strain in lifting, inclined me to suspect a hernia, while the occasional passage of indurated fæces indicated that the colon was involved.

I informed my patient and her family, that although compression might palliate the symptoms, an operation would be necessary; yet as she was considerably emaciated, and warm weather was approaching, I deemed it advisable to premise such means as would recruit her general health, with a visit to the sea-side, etc.

When cold weather approached, she became anxious for relief, and I called a neighboring physician in consultation, who urged a continued trial of compression before resorting to the knife. At this time we found but one opening in the bowel, large enough to admit the end of the little finger, although a pit or depression existed in the sinus at the place of the other opening.

Compression had no further effect than to prevent the escape of fæces quite so readily. Her general health also suffered, and she became urgent for an operation. I therefore invited Professor Gross, of the Jefferson Medical College, to visit the case, April 9th, 1857. Concurring in the necessity of an operation, in the presence of Drs. Carpenter, Rhein, and the writer, he laid open the sinus, the patient being etherized. A large amount of unorganizable lymph was removed, but the opening in the bowel was found to be single, and so small as to afford a prospect of cure without resorting to a suture. A roll of lint was placed in the cavity and covered with a compress, and the patient directed to remain quiet.

For some days the bowels were kept at rest by the use of elixir opii, and the dressings removed from time to time. The opening in the bowel contracted somewhat, but although every means was taken to improve her general health, it did not heal, nor would the sinus fully granulate. In the beginning of October, I applied an elastic bandage over the abdomen and allowed her to walk about, and by the tenth of November the sinus had entirely healed. On the 30th of November, however, a small opening occurred, giving exit to a little pus, and in a day or two after another opening was seen. These were small sacs or pockets in the course of the original sinus, the old opening into the bowel remaining firm. As they appeared of but trifling extent, they did not prevent the patient from exercise; yet I deemed it prudent to prescribe occasional tonics.

As my patient was of singular benevolence of heart, on February twenty-fifth she visited a poor man who lay ill of the gravest form of typhoid fever, and on the two succeeding days used excessive exertion on the occasion of the funeral of a friend. On the morning of the twenty-eighth I was sent for, and found her much prostrated, with nervous excitability and jactitation; pulse 120, and tongue covered with a whitish fur. Prescribed a calmative mixture, and a dose of castor-oil and laudanum to be taken in the evening. I saw her again at night, and, as the oil had operated, gave a full dose of Dover's powder. The next day she complained of pain when pressed over the cæcum; there was also slight tympanitis, with thirst and a brown tongue. Although her intellect remained clear, the symptoms were so similar to those of ordinary nervous or typhoid fever, that I had no difficulty in diagnosis; yet from her previous condition I feared a speedy perforation of the bowel. Unfortunately, my fears were too well founded, as about 9 A.M., on the 4th of March, I saw her breathe her last.

A post-mortem examination having been permitted by the family, in the presence of Dr. Rhein, and my student, Mr. Dimmick, I next day made a thorough investigation of the condition of the thoracic and abdominal viscera. An examination of the old sinus was made, and no communication could be found with the internal viscera. The state of the muscles was learned by careful dissection, and they were observed to be so fused together as to make that part of the abdominal wall really stronger than elsewhere. On opening the cavity of the peritoneum it was found full of feculent matter, apparently from a perforated bowel. The intestines were much softened, although adherent to each other, and to the omentum and peritoneum, by old and strong attachments. Indeed, every organ examined, lungs, pleura, stomach, liver, etc., were adherent in the most remarkable manner. From the effort necessary to detach the intestines, and their softened condition, it was impracticable to find the precise point of perforation. With the exception of the adhesions referred to, the lungs were healthy. They were particularly examined for tubercular deposit. The heart and pericardium were healthy, and were the only structures observed without abnormal adhesions.

Immediately in front of the bladder was an ovarian tumor or cyst, oval in shape, about five inches long and four broad. On slitting it lengthwise, a large mass of sebaceous matter was seen, full of hair, and two irregular bones were observed in the membranous wall, into which eleven well-formed teeth were inserted. One of these pieces had two rows of teeth, some molar, others irregular in shape. This cyst had been the origin of all the former difficulty, as it was found adherent to the descending colon and peritoneum in the neighborhood of the old sinus, as well as to the fundus of the bladder, which was torn in the effort to detach it. The descending colon was considerably diminished in calibre, and had been perforated from side to side. The uterus had been so pressed upon by the tumor as to be flattened, and distorted into an anteflexion. The right ovary appeared healthy, saving a round, hard, ivory-like concretion, the size of a pea.

This tumor had so displaced the organs, that in connection with a remarkably capacious pelvis, it was not possible to ascertain its presence by external or tactile investigation.

The pieces of bone in the tumor were covered with membrane presenting all the characteristics of true skin, from which proceeded the hair before alluded to. Under the microscope, this hair presented nothing remarkable, save the comparative absence of pigment, and a sharply serrated appearance of the outer imbricated scales. The fibres, as might be expected, seemed more loosely bound together than in other hair. The amount of hair, when washed from sebaceous matter, was about a large handful.

Instances of cutaneous proliferous cysts are given by Mr. Paget, in his Surgical Pathology, as occurring in the subcutaneous tissue, in the brain, in the umbilicus, and in the scalp, and teeth-bearing cysts in the jaws, particularly in the antrum. One case is recorded in which the tumor was found in the anterior mediastinum of a woman twenty-one years of age, and contained skin and fat, serous fluid, sebaceous matter, and two pieces of bone, like parts of upper jaws, in which seven well-formed teeth were imbedded. Four similar cases occurring in the ovary are on record. Two from the museum of the Royal College of Surgeons, and two from an essay by Lang. In one of Lang's cases more than three hundred teeth were found in the ovary; in the other, a piece of bone, like part of an upper jaw, with forty-four teeth. "It is only," says Mr. Paget, "during the vigor of the formative forces in the fœtal or earliest extra-uterine life, that cysts thus highly organized and productive are ever formed." The history of this case, however, causes us to entertain a doubt upon the correctness of this opinion. From this it appears that she first menstruated when between fifteen and sixteen years of age, and that she imprudently washed all over in cold water, which produced illness, rendering medical treatment necessary. Although relieved, she had no further menstrual discharge till she was seventeen years old; yet during this time such was the vigor of the vital forces that she grew nine inches in height in three months time, as ascertained by measurement. This fact, which is well authenticated, points out that period as the time, in all probability, of the formation of the cyst. When between seventeen and eighteen years old a peculiar fetor of the breath was observed, which continued until the discharge by the urethra, and was afterwards always noticed when no discharge occurred.

CASE 2.—*Ovarian Cyst cured by Iodine Injections after an unsuccessful Attempt at Removal.*—On May 16, 1858, I was consulted by Bridget McK., aged twenty-two. She was always regular till after an attack of fever, one year and nine months ago, when she noticed a swelling in the right iliac region, which steadily increased. Has had no menstrual discharge since. Her abdomen was as large as at full term of gestation; the umbilicus protruded, and there was evident fluctuation. The womb was small and retroverted, but appeared movable, and the sound entered one and a quarter inches. Abdomen so tense that I could not judge as to adhesions.

I informed her that she had ovarian dropsy, and explained the risks of the operation to which she was anxious to submit. Her general health and spirits were so good that I anticipated a favorable issue.

I tapped her on May twenty-fifth, in the presence of Drs. Brown and Nicholas, and my student, Mr. Dimmick, of five gallons of fluid, yellow, and semi-opake, strongly albuminous on boiling, and in which the microscope showed short hairs or acicular crystals, cholesterine plates, and compound characteristic granules.

In two days after tapping, the cyst appeared to fill rapidly, and was most evident on the right side, seeming to be quite loose in the peritoneal cavity, from which I was led to suppose the absence of important adhesions.

She went home, and returned on the thirty-first to be operated on. Her abdomen was quite full and tense, and measured forty-six and a half inches in circumference. A full dose of castor-oil was given, with a little laudanum, to prepare her for the operation. This not answering the purpose, I repeated it on June first.

The operation took place, on the 2d of June, in the presence of a large number of medical gentlemen. Before proceeding, I noticed a subsidence in the size of the tumor, which I mentioned to the gentlemen present, together with the mode of arriving at the diagnosis, and proposed to make an explorative incision, and, if possible, extract the sac.

After anæsthesia had been produced by a mixture of chloroform and ether, I made an incision four inches long, in the course of the linea alba. From the flaccid condition of the abdominal parietes it was necessary to divide the layers with a bistoury upon a grooved director. Upon reaching the peritoneum, which was altered in character, thick, fibrous, and fused, as it were, into the adjoining tissues, a fold of it was raised with a tenaculum, and a small incision made for the purpose of introducing the director, when a sudden gush of fluid showed that I had punctured the sac. The fluid was allowed to drain off, and the sac carefully explored. It was found universally adherent to the abdominal parietes and viscera. I made an attempt to break up the adhesions on one side with my finger, but finding them firm, abandoned all hope of removing the cyst. A tent was introduced into the lower angle of the wound, the edges of the incision were brought together by four twisted sutures and strips of adhesive plaster, a wet compress and bandage placed over all, and the patient put to bed.

The after-treatment consisted of strict antiphlogistic regimen and opiates. As the patient was troubled with bilious vomiting, and the pulse kept excitable, I did not resort to the iodine injections until the 15th of June, when, after evacuating a pint and a half of exceedingly offensive pus, I passed through a flexible catheter two ounces of tincture of iodine. No irritation whatever having been produced, on the seventeenth I injected four ounces more. On the day following, I found the contained fluids so coagulated that the mass was with difficulty broken up by the catheter. I allowed several days for its removal, and having washed the sac well with tepid water, injected three ounces more, which was the exact capacity of the sac. I continued the injections every few days until the middle of July, using in all about a pint and a half of tincture, when the sac had contracted so much as to admit but about an inch of the catheter. An elastic abdominal bandage was put on and the patient allowed to return home. I have seen her at various intervals since up to the present time. There has been no return whatever of the enlargement, although as a measure of precaution she continues the bandage. Her health has been fully re-established, and her menses returned five months ago, and have since been regular.

ART. III.—*A Case of Aneurism of the Femoral Artery cured by Mechanical Compression.* By W. A. CLAPP, M.D., of New Albany, Indiana.

ON the 1st of July, 1858, I was consulted by J. M., a steamboat engineer, twenty-eight years of age, on account of an aneurism of the middle third of the femoral artery. Four months previously, while engaged in his regular occupation, and without any unusual muscular action, he felt a slight snap on the inside of the right thigh, and soon afterwards recognized a small pulsating tumor at the middle of the limb. At the time I saw the case, the tumor had attained the size of a large hen-egg, and was marked by all the characteristic symptoms of an aneurism.

Considering the case a suitable one for compression, on the nineteenth of July I applied two clamps, one at the groin, the other over the femoral artery, about four inches above the tumor, having previously bandaged the limb. The pressure was just sufficient to control the pulsation, and was made alternately with the instruments; the femoral clamp, however, being mostly used so as not to interfere with the return of blood by the saphenous vein. Both clamps were removed at night.

On the following morning the tumor was slightly harder, but the pulsation was undiminished. On the twenty-first, a conical lead weight of four and a half pounds was substituted for the upper clamp, which was not well borne, and the tumor was firmer and slightly reduced in size. For the succeeding seven days the pressure proved very irksome, and was kept up only a few hours each day. Occasional doses of opium were administered to relieve pain, and the tumor had not made any progress toward a cure.

On the twenty-ninth, the treatment having been discontinued for twenty-four hours, on account of pain in the tumor, and a sense of aching and uneasiness in the limb, the pressure was again applied; but instead of being partial, as it had been previously, it was made so as to control the circulation entirely, and the patient was kept fully under the influence of morphia. At 10 o'clock in the evening the tumor was hard and pulseless, the limb was not swollen, and its temperature was but slightly diminished. On the following morning the apparatus was removed.

On the thirty-first, the tumor was considerably diminished, and very hard; but pulsation having returned, the pressure was reapplied. He was directed to have one-fourth of a grain of sulphate of morphia every three hours, and during the evening the pulsation had much diminished.

August 2d.—The thigh clamp, having remained on during the previous night, had caused some excoriation, and the pressure had to be so regulated as to admit of sleep. Pulsation in the tumor was scarcely perceptible, and the affected limb being somewhat colder than the sound one, was wrapped in cotton and flannel. Two days subsequently, twenty drops of tincture of digitalis were ordered every eight hours, on account of the pulsation having increased, and it had greatly diminished up to the eighth instant, when it returned, and was quite forcible in consequence of the clamp having been displaced. On the eleventh, the patient complained so much of inability to stand the pressure that it was removed entirely and again resumed on the sixteenth, he having in the mean while had a severe congestive chill, which readily yielded to treatment.

A great improvement was made in the clamp, a solid india-rubber pad was substituted for the wooden one covered with buckskin hitherto used, and a steel spiral spring added so as to resemble in action Carte's compressor.

17th.—Pulsation ceased entirely at 7 o'clock A.M.; some pain was felt in the aneurism and ankle, but the difference in the temperature of the limbs was slight. The patient expressed himself as being much gratified in the new clamp, he being able to change his position and even to sit up, which he was unable to do before.

18th.—Pulsation was barely perceptible during the day, and up to the twenty-first there was no change, when pulsation having increased, the limb was elevated on an inclined plane.

24th, A.M.—Increased pulsation. P.M.—Since nine o'clock this morning the patient was unable to detect any pulsation; I could occasionally detect a slight throb, but at other times it was imperceptible. Tincture of digitalis was again ordered, of which he has not taken any since the eleventh instant.

27th.—No pulsation; discontinued the digitalis, which has apparently had no effect upon the heart's action.

28th.—Pulsation returned at 7 o'clock A.M., continued two hours, and then ceased.

Compression was kept up until the 4th of September, the aneurism remaining hard and pulseless.

October 4th.—Patient has experienced slight pain throughout the limb during the last month, but it has now ceased, and the tumor is gradually diminishing in size.

March 1st, 1859.—The tumor is very small, pulseless, and hard, and the patient has perfect use of the limb.

The pressure required to entirely control the pulsation in the aneurism, by the lead weight at the groin, was from seven to eight pounds; by the thigh clamp it was equal to fifteen or sixteen pounds.

ART. IV.—*A Case of Removal of the Patella of the Left Knee, with Recovery, and Excellent Use of the Joint.* Read before the Medical Society of St. Joseph, Missouri. By O. B. KNODE, M.D.

ON the 10th of March, 1859, I was requested by Col. A. to visit, in consultation with Dr. Wheeler, of Palermo, his son residing in Doniphan County, Kansas Territory, about twelve miles distant from this city. On arrival I found Dr. Wheeler present, and upon inquiry learned that about Christmas preceding, young A., aged twenty-one years, of nervous sanguine temperament, had fallen upon the hard frozen ground and slightly bruised his left knee, to which he paid but little attention, until he was reminded of it by its becoming painful, hot, and swollen, when he sought the advice of a Kansas quack doctor, who, he declares, by irritating applications of various plasters, powders, and the like, produced sloughing of the integuments, and finally denudation and death of the patella. Thinking it was beginning to be a very serious affair, he called Dr. Wheeler to visit him, who seeing the nature of the injury, informed Col. A. of the fact, when he came at once to request me to consult in the case.

I found the young gentleman very much emaciated, pale, with hectic flush, pulse 130 beats per minute, and had been confined to his bed for two months and a half. On examining the knee, I found the necrosed patella black, denuded of its investments and dead, imbedded in a profuse mass of unhealthy granulations sprouting up around it, an inch or more high; the suppurative process having opened the synovial membrane to a large extent, the synovia was found to be distilling from the cavity of the joint in considerable quantity. The ligamentum patellæ was found intact on its under surface, but in a somewhat softened condition, and the tissues generally about the joint swollen and enlarged.

Upon consultation, it was thought, after taking all the circumstances of the case into consideration, that its early removal was pressingly indicated—his quick and compressible pulse, his emaciation, his hectic, and his fast-failing strength, all indicated that he could not much longer sustain the irritating consequences the dead patella was inflicting; consequently, two days after, the patient being put fully under the influence of a mixture of chloroform and ether, Dr. Wheeler removed the bone by seizing it with a pair of strong dissecting forceps and detaching with a scalpel the attachments left by the ulcerative process, which consisted in a part of both the ligamentum patellæ and portions of the yet attached synovial membrane. Of course, its removal exposed fully the inside of the joint; and the cartilaginous ends of both the femur and tibia looked perfectly healthy. The patella was necrosed down to its internal articular cartilage, which was healthy, except a couple of discolored spots, which showed conclusively that its complete destruction was being rapidly accomplished. The wound was closed as nearly as possible by adhesive straps, but the edges could not be entirely approximated; a piece of lint dipped in glycerin was applied over the wound, and the whole knee enveloped in a couple of turns of surgeons' gum-elastic cloth, extending five or six inches above and the same distance below the wound, and fastened by a small roller at each end, to exclude as perfectly as possible the air from the joint—a device which, I think, contributed much to the satisfactory result obtained. The limb was then placed upon pillows, in a slightly flexed condition. In consequence of great suffering from pain in the joint, a full dose of morphia was given, to be repeated at such intervals as would be necessary to keep him entirely comfortable; a generous diet was ordered, with wine and other stimulants. I then left the patient, Dr. Wheeler attending to the after-treatment, and expected, as a matter of course, that if he recovered at all it would be with an anchylosed joint; but judge of my surprise and astonishment at meeting him on the street, in this city, a few days since, five months after its removal, walking almost as well as if nothing had occurred. I then examined the joint, and found the depression made by the loss of the knee-cap, and in its stead a ligamentous band seemingly uniting the two ends of the ligamentum patellæ. He then showed me how well he could walk, run, jump, kick, and in fact execute every movement of the joint almost as well as with the sound one, and he further assured me that the strength of the joint, as well as the facility of its movements, were daily increasing.

This most remarkable and interesting case demonstrates to us the wonderful recuperative and repairing powers of nature, and so rarely have injuries to this bone required its removal, that I can only find two cases of a like nature recorded. One of them occurred in the practice of our distinguished countryman, Professor Gross, and was of a very similar character to the one I have just described, a history of which will be found in his late and excellent work on surgery; the other case I find recorded in Professor Eve's work on surgery, as having taken place in 1829, in the practice of M. Thirion, of Namur, in France.

ART. V.—*Proceedings of the Pathological Society of Philadelphia.*

WEDNESDAY EVENING, January 11th, 1860.

The President in the Chair.

Fused Kidneys.—DR. LENOX HODGE exhibited a large malformed kidney, consisting of two kidneys fused into one. It was taken from the body of a middle-aged man who died in the Pennsylvania Hospital, from traumatic meningitis.

The two kidneys were in reality perfectly normal, except that the pelves were directed more anteriorly than usual, and that their lower extremities were connected by a ribbon-like band passing across the vertebral column. There was no deviation from the usual position, as is so commonly the case.*

DR. DARRACH exhibited a tubercle the size of a marble, taken from the brain substance of a young girl who died of tubercular meningitis. Tubercles were found in the membranes of the brain and also in the lungs.

Universal Melanosis.—DR. GROSS, in exhibiting the specimens, said: The following case is one of unusual interest, from the almost universal diffusion of this morbid product. The number of similar instances upon record is very limited.

The patient, Elisha Chadick, aged fifty-eight, was a resident of Louisville; he was a stout, robust man, a pilot on the Ohio and Mississippi rivers, and first began to complain of indisposition in August, 1854. His attention was originally directed to the anus and rectum, in consequence of the existence of considerable pain and soreness, which induced him to believe that he was affected with internal hemorrhoids, an opinion somewhat strengthened by the fact that there was occasionally a slight discharge of blood. The symptoms steadily increasing, the general health at length gave way, and the man was obliged to take to his bed, which he never left until he died, a little upwards of a year from the commencement of his illness. The prominent symptoms, during the latter stages of his illness, were rapid emaciation and loss of strength, failure of appetite and sleep, an irritable state of the bladder, with a frequent desire to urinate, frequent discharges from the lower bowel of a mucous and bloody character, and considerable pulmonary and bronchial irritation, with occasional cough. The finger inserted into the rectum readily detected the presence of mechanical obstruction from some morbid growth, and bluish-looking tumors existed in the groin, and in the skin of different parts of the body.

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* See Dr. Morton's case, and Dr. Harris's remarks on it, in the Proceedings of this Society of May 12th, 1858.

The dissection was made by Professor T. G. Richardson and myself, nine hours after death. The body was excessively emaciated, and the hands, feet, and legs, were somewhat œdematous. The surface was studded with tubercles, upwards of fifty being counted on the abdomen, chest, and shoulders; a few also existed on the arms and legs, and one on the right temple. Ranging in size from a pea to a small hazel-nut, they were perfectly movable, of a flat, rounded, or spherical shape, and of a firm, gristly consistence. Most of them were situated in the subcutaneous cellular tissue, or in this tissue and in the substance of the skin. The largest, and apparently the oldest, were of a black color, the rest being whitish or grayish. The lymphatic ganglions of both groins were considerably enlarged, and of a black color; those on the right side being more deeply involved than the left. The axillary ganglions were similarly affected, only in a slighter degree.

The *omentum*, thickened and granulated, presented thousands of hard, black, shot-like tubercles, with here and there a whitish one, very vascular, and larger than the black.

The whole *peritoneal* surface, parietal as well as visceral, was studded with black tubercles, from the size of a small shot to that of an ordinary pea; very hard, flattened, and apparently developed in the subserous cellular substance, but projecting beyond the surrounding level. They were most abundant in the meso-rectum, on the ascending colon, and on the wall of the abdomen, opposite the liver. The diaphragmatic surface of the membrane, the stomach, and small intestines, were nearly free from disease. Upon laying open some of these tubercles, many of them were found to have a white central nucleus. No serous effusion existed in the peritoneal cavity.

The *liver* was of the normal size and weight, and, for the most part, of sound structure. A few small melanotic tubercles were seen upon its surface, just beneath its peritoneal investment. At the inferior border of the right lobe, by the side of the gall-bladder, were several black masses of a soft, pultaceous consistence, the largest being of the volume of a pullet's egg. Nearly a dozen small tumors, white and black, intermixed, and of scirrhous hardness, occupied the interior of the organ. The hepatic substance around these tumors did not appear to be materially affected.

The *gall-bladder* was somewhat larger than usual, and filled with viscid, greenish bile. Upon its inner surface were a number of very small tubercles, seated in the submucous cellular tissue, and of a black color.

The *spleen* was of the natural volume and consistence, but its interior contained a broad lamellar body, of a whitish hue, and of a fibro-cartilaginous consistence.

The *pancreas* was considerably hypertrophied, and contained a large number of black tubercles, from the volume of a small shot to that of a small hickory-nut.

The *stomach*, which was of the natural size, contained a number of tubercles, all of small volume, hard, and more white than black. One or two of them were partially ulcerated. The pyloric and œsophageal extremities of the organ were healthy, as was also the *œsophagus* itself.

The *bowel* was carefully examined in its entire length. A few small, black tubercles were found in the duodenum, and the upper portion of the jejunum. The ileum, ileo-cæcal valve and colon were sound, the latter containing healthy fæcal matter and some gas. The lower part of the rectum and anus were both much diseased, being of scirrhous hardness, melanotic, and ulcerated at the posterior surface. The anus was much contracted and very firm, the induration extending for a considerable distance around.

The *kidneys* were affected in different degrees. The left was one-third larger than natural, and rather distorted, numerous white and blackish tubercles being found both upon its surface and in its interior. The right organ was somewhat under the natural volume, and nearly sound, no cancerous deposits being discoverable. The ureters were healthy.

Both *supra-renal* capsules were deeply involved in the disease. The left was fully half as large as a sound adult kidney, very black, and much softened; the right was also much hypertrophied, black, and broken down.

The *urinary bladder*, containing about three ounces of turbid urine, was covered with small, black tubercles, lying in the subserous cellular and adipose tissues. Its inner surface was generally sound, but slightly fasciculated at the bas-fond, and presented five distinct, characteristic tubercles, the largest about the size of a filbert. The walls of the organ were one-third of an inch in thickness, very hard, nodulated on the surface, and filled with white and blackish tubercles, the two substances being much blended. The superior extremity was more free from disease than the rest of the organ.

The *prostate gland*, very hard, and somewhat enlarged, was composed of a mixture of white and black substance, the greater amount of discoloration being in front. The organ was two inches and a quarter in length, by two inches and an eighth in width, and one inch and an eighth in thickness.

The *seminal vesicles* had apparently undergone the fibrous degeneration, being very hard and dense, with hardly any remains of their natural cavity. They were free from melanotic deposits. The testicles were normal.

Finally, the *lymphatic ganglions* of the pelvis, especially those around the bladder, prostate gland, and rectum, were all in a state of enlargement, induration, and melanotic degeneration.

The *lungs* were deeply implicated in this remarkable disease. Black and white tubercles were numerously and extensively scattered over the outer surface of the right organ, which exhibited a linear, dark, mottled aspect, as is so often seen in health. The tubercles, which were situated in the subserous cellular substance, were hard and prominent, the largest being the size of a dime. The interior of the organ was crowded with similar bodies. The left lung, firmly and extensively attached to the ribs by ancient adhesions, contained tubercles similar to those in the right lung, but neither so large nor so numerous. Both costal *pleuræ* exhibited here and there, in their connecting tissues, small tubercles, both white and black. Their cavities, however, were free from serous effusion. The larynx, trachea, and bronchia were healthy.

The *bronchial* lymphatic ganglions were enlarged, indurated, and characteristically black.

The *heart*, which was of the normal bulk and weight, presented, both externally and internally, a number of black and white tubercles. The right auricle contained altogether about twenty of these bodies, some imbedded in its substance, others, and the largest, projecting from its surface. The smallest did not exceed the size of a mustard-seed. The greatest number were situated in the auricular appendage, in the pectiniform fibres. Most of them, especially the larger, were of a bluish color, a few only being white or grayish. Five similar bodies, some black and others white, were discovered in the right ventricle, among its fleshy columns, the largest being about the volume of a marrow-fat pea, and all very hard and dense. Five small, black tubercles also existed in the left ventricle, in and among the fleshy columns; and several were found in the left auricle, one externally and the other internally.

The *pericardium* was healthy, and no water was contained in its cavity.

The *aorta* was sound, except in its abdominal division, where there were distinct marks of earthy deposits and softening, with some degree of abnormal redness. The common iliac arteries were similarly affected, the left containing, in addition, a small melanotic spot, apparently situated in the subserous tissue. The vena cava presented nothing unusual.

The *thyroid gland*, considerably enlarged in bulk, and greatly indurated, contained a large amount of melanotic matter; the quantity being much greater on the right side than on the left, which was occupied with a great deal of white, crude substance.

The *brain* and spinal cord, eyes, bones, joints, and voluntary muscles were not examined, but there was no reason to believe, from anything that occurred during life, or during the progress of the dissection, that these several structures were at all implicated in the disease

The peculiarities presented by this case are, first, the extensive distribution of the heterologous matter, constituting thus a kind of carcinomatous diathesis; secondly, the combination of melanosis with scirrhus; thirdly, the gradual wearing out of the system without any marked diagnostic symptoms as to the true nature of the disease, until the appearance of the bluish tubercles in the skin and groins; and, lastly, the fact that although there was the most complete disorganization of the supra-renal capsules, yet there was no bronzed appearance of the surface.

Fracture of the Spine.—DR. BRINTON directed the attention of the Society to a series of specimens removed from the body of a man who had recently died at the St. Joseph's Hospital, of this city. Some five months previous, the patient, a man about twenty-five years of age, had been accidentally struck on the back by a revolving fly-wheel. The result of this injury had been an impacted fracture of three dorsal vertebræ, and a luxation of the body of the sternum from the manubrium. Dr. Brinton exhibited casts of the parts, taken during life, and alluded to the extreme rarity of luxations occurring between the sternal bones. The further consideration of this injury, with a full history of the case and an account of the reputed parallel cases, he stated he would at some future time lay before the Society.

A discussion took place between several members of the Society, as to the amount, if any, of reparative process set up in the fractured vertebræ. The subject was finally referred to a committee.

WEDNESDAY EVENING, January 25th, 1860.

The President in the Chair.

Hypertrophy of the Prostate Gland.—This specimen was presented by DR. LENOX HODGE. The man from whom the specimen was taken was admitted into the hospital, for an acute attack of retention of urine. He was sixty-eight years of age; and, when received, was already in a low typhoid condition, from which he did not rally. He died on the sixth day. The urine always contained a large deposit of mucus and pus. A catheter was frequently passed into the bladder. By bearing in mind the probable enlargement of the middle lobe of the prostate, and the position of what was thought to be a false passage, this was readily effected. Upon the post-mortem examination it was found that the whole of the prostate gland was hypertrophied, especially the middle lobe, through the centre of which there was a false passage almost entering the bladder. The urethra, in the prostatic portion, was much dilated, and passed in front of and thus over, and also to the left of the middle lobe of the prostate. The walls of the bladder were hypertrophied and the ureters dilated.

Fibrous Tumor of the Left Labium.—DR. GROSS exhibited a large tumor, weighing upwards of three pounds, removed from the left labium of a colored woman twenty-six years of age. On section, a clear fluid oozed out. The appearance of the mass was that of a yellow substance resembling fat, intersected with large white bands. The swelling had been forming for upwards of two years and a half. It was the size of a child's head at full term, and occupied the left labium descending from between the vagina and the tuberosity of the ischium to nearly the middle of the thigh. It felt like a smooth, firm, and elastic body. The tumor was completely extirpated while the patient was under the influence of chloroform.

DR. HODGE mentioned a similar case which he had seen in the hospital, in which the tumor was pyriform and attached by a pedicle to the left labium; it was even larger than the one exhibited by Dr. Gross. The diagnosis was a fibrous tumor; but the patient, a young married woman, refused to submit to an operation, and left the hospital.

Cancer of the Heart.—DR. GROSS presented a number of specimens of *encephaloid cancer* which had been taken after death from a child six years of age, a patient of Dr. C. Osler, of this city. The only prominent symptoms in this case had been ascites, emaciation, and a tumor at the right side of the neck; no physical signs of disease of the heart were noticed. Post-mortem section, however, discovered masses of encephaloid tumors growing from the peritoneum epiploon mesenteric glands, pancreas, kidneys, and left auriculo-ventricular orifice. The stomach, supra-renal capsules, pleura, and liver were healthy; there was no hereditary predisposition to cancer.

Cancer of the Bladder.—DR. PACKARD exhibited a specimen of this affection removed from a patient of Dr. Dunton:—

Mrs. Young, aged forty-seven, American, housekeeper, had been sick four years, and had been complaining more or less for a year past. She has had occasional flooding, and pains in her back, a constant boring sensation in the uterus, and occasionally lancinating pains. The os uteri was tender on pressure; for some time past, bloody discharge came on irregularly. The bowels were constipated; the passages painful; the urine was free, somewhat frequent, occasionally bloody; general health tolerably good. The cervix uteri was hard and nodulated; the anterior lip elongated. No tumor was perceptible in the abdomen. No anodyne gave so much relief as meconate of morphia.

She finally became unable to pass water at all without the catheter. The patient was first seen in January, 1859; died, January 22, 1860.

Autopsy, made twenty-six hours after death.

Body pale; subcutaneous fat abundant.

Upon opening the abdomen, the bladder was found largely distended with blood-clots, and bound firmly to the anterior surface of the uterus. Its mucous membrane was studded with spots of cancerous deposit, of extremely variable size. Toward the left margin of the vesical triangle there was a small mass of villous cancer projecting up into the cavity of the organ. A small ulcer upon the surface of this mass had perhaps been the seat of the hemorrhage.

The uterus and ovaries were blended into a firm mass, two cysts posteriorly marking the respective sites of the ovaries. Between these two cysts, and bound somewhat firmly to the posterior surface of the uterus, ran the rectum, forming a double curve in front of the sacrum. The os uteri was very indistinct, the vagina shortened and much firmer in texture than normal.

The rectum seemed perfectly healthy; the small intestine was adherent at one point to the fundus of the uterus.

The ureters were very much distended with limpid urine, as if obstructed below. I was unable to detect any passage from them into the bladder; their walls were thinned. The kidneys were atrophied, their calices and infundibula very largely distended, and their secreting structure greatly lessened in quantity. They were very pale—in fact, apparently almost bloodless.

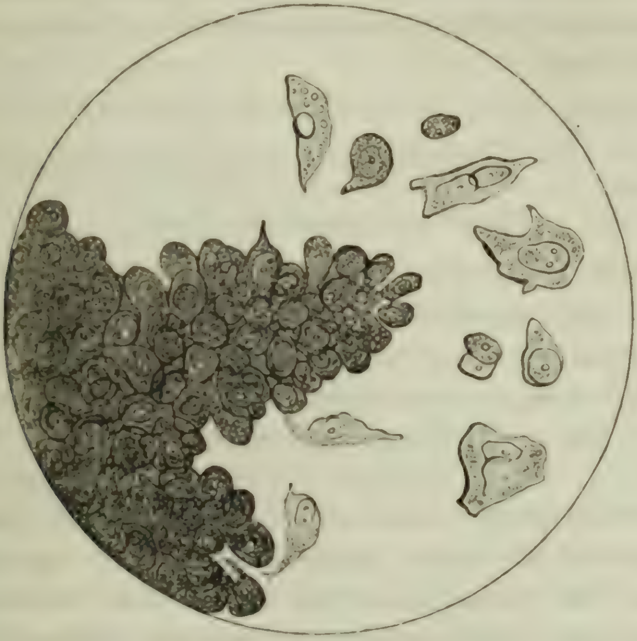
The supra-renal capsules were the seat of a deposit, whitish, in distinct granules about as large as a pin's head, without any special microscopic characters.

The liver was healthy, but on its surface were half a dozen masses of cancerous deposit, of a clear white color, projecting somewhat. On the corresponding surface of the diaphragm were similar masses.

Pancreas, lungs, and spleen healthy.

Microscopic Examination.—All the cancerous deposits alluded to consisted of cells, generally ovoid, many of them pointed, of very various shapes and sizes, with large, nucleolated nuclei. Some of the cells contained two nuclei, some of the nuclei two or more nucleoli. Some of the cells were in a state of degeneration, having lost their contents, or at least having faded very much, and showing here and there a few small oil-drops.

FIG. 12.



The fungous growth at the base of the bladder was seen, on letting the specimen lie in water, to be flocculent like the outer surface of the chorion. On examining these flocculi, they were found to consist of vessels with enormous numbers of cancer-cells, meshes of wavy and very fine fibres, and with projections very like the intestinal villi along their margins. These latter projections seemed to have a central stem, probably a loop of a capillary, around which were grouped the cells, generally attached by their smaller extremities, and strongly resembling tacks or iron-filings around the end of a magnet.

Such an arrangement as that just detailed is not mentioned, so far as I know, in any work on pathology. Wedl speaks of villous cancer, but describes the cells as lying parallel to the axes of the papillæ. Dr. Wilks, in his lectures on pathological anatomy, delivered at Guy's Hospital, London, and published in 1859, says that the villous character of a growth is secondary, and may be implanted either on an innocent or a cancerous tumor. He then goes on to describe a case of death from hematuria, in which what appeared like little tufts of moss were found growing from the mucous membrane of the bladder. When examined by the microscope, these "presented villous processes, and, what is very striking, as you may see in this drawing, which I made at the time, the surface is covered by columnar epithelium, long, battledore-shaped nucleated cells, very different from the ordinary epithelium of the bladder. Each villus, I should have said, contained loops of blood-vessels."

The drawing I have shown is in no way exaggerated.

The cyst corresponding to the left ovary being laid open, was found to contain about f℥ij of a reddish grumous liquid: abundant plates of cholesterine, granular cells, granules, and débris of organic matter, were detected in this liquid.

WEDNESDAY EVENING, February 8th, 1860.

The President in the Chair.

DR. DA COSTA presented the lungs of a woman who had died of phthisis. One lung contained many scattered tubercles in the lower lobe, and a very large cavity in the upper, sufficiently large indeed to have occasioned metallic phenomena during life. In the other lung there were only two or three very small tubercles.

DR. BRINTON exhibited a specimen of *extra-capsular impacted fracture* of the neck of the femur, occurring in a female aged eighty-four. This injury was the result of a fall on the hip, three weeks prior to the death of the patient. The prominent symptoms during life were shortening of the limb, eversion of the foot, and extreme rigidity. An examination of the specimen exhibited an irregular line of fracture extending obliquely across the bone, and splintering the great trochanter. The fractured extremity of the cervix was firmly impacted within the upper extremity of the shaft. No reparative action seemed to have been set up. Dr. Brinton made some remarks on the difficulty of diagnosis often met with in the occurrence of impacted fracture of this bone.

Wound of Left Ventricle of the Heart; Death thirty-six hours after Injury.—DR. LENOX HODGE said: On Wednesday afternoon, February first, H. W. was brought to the hospital, with a penetrating wound of the chest. It was said that he had been stabbed the evening before, and at the time had lost a large quantity of blood. At his admission he was cold, the pulse small and feeble, the respiration rapid, and his countenance expressive of great anxiety. The wound was situated between the fifth and sixth ribs, and a little to the left of the left nipple. It was an inch and a half in length; it penetrated forward, inward, and downward. Air and blood passed freely from and into the pleural cavity during respiration. There was no cough nor spitting of blood. The vesicular murmur could be heard, but the sound on percussion over the whole of the left side of chest was dull, the action of the heart was feeble and irritable. The mind was perfectly clear. During the afternoon and evening the skin became warmer, but the other symptoms remained unchanged. About midnight, the pulse was still feeble, and he was unable to speak; then he became exceedingly restless, and continued to roll incessantly till morning. At 7.30 A.M. of Thursday, he was almost pulseless and motionless, except his rapid breathing, and he died at 10 A.M. He lived, therefore, thirty-six hours after the reception of his injury, on Tuesday, at 10 P.M.

The post-mortem examination showed a wound situated as above stated, and passing forward, inward, and downward, through both surfaces of the pleura, the lower edge of the upper lobe of the lung, the pericardium, and into the left ventricle near the apex of the heart. The pleural cavity contained about ten ounces of fluid blood, and some coagula. The pericardium was filled with about three ounces of bloody serum. The wound of the left ventricle was half an inch in length, and transverse to the external layer of muscular fibres. On the exterior surface of the heart the wound gaped about one-fourth of an inch, but within the sides were in contact. Upon opening the left ventricle, a little plug of lymph was seen among the columnæ carneæ over the wound, which, however, could not be found till a blunt probe was passed in from without. Only the lower corner of the wound, about one-eighth of an inch, entered the cavity of the ventricle. The pericardium was already injected and covered with minute elevations.

Softening of the Fornix and Septum Lucidum; Fatty Degeneration of the Heart.—DR. KEATING said: I was called to attend Mr. H. D. B., on the twenty-eighth of December last. He was thirty-seven years old, and naturally of a strong constitution; had suffered on previous occasions from attacks of acute rheumatism, and was subject more or less to flying rheumatic pains, for which I had prescribed for him some weeks previous to his last illness.

Mr. B.'s health had been recently much impaired from mental distress consequent upon unsuccessful commercial operations, and he had been affected with general debility which went on daily increasing. I had seen him on several occasions at my office, and prescribed for a hacking cough which had annoyed him considerably, and impaired his strength by the violence of the paroxysms, causing him constantly to void the contents of his stomach.

On the morning of the twenty-eighth, I found him suffering from general rheumatic pains, tongue coated, abdomen free from pain, and no fever During the first two or three days he scarcely appeared ill, but was plunged into a profound melancholy.

On Saturday, the thirty-first, he seemed much relieved; the bowels had been freely opened, and although very much dejected, he was somewhat less gloomy than on previous visits.

On Monday, the second of January, he complained of a violent pain in the head, confined to the right frontal region, periodic in its character, and so intense as to cause him to groan out with the agony he endured, and to entreat for remedies which would cause him to sleep. This frontal and facial pain, which seemed decidedly neuralgic in its nature, playing around the branches of the nerves of the forehead and face, originated at one time in the ear and in the eye of the right side, and always commenced about 7 P.M., and lasted till 4 A.M.; then came an interval of four or five hours with positive relief from suffering, but followed by excessive prostration. This periodical headache now seemed to be the prominent symptom in his case. For several days it baffled all attempts made to relieve it, and he was becoming rapidly exhausted from want of sleep and from the violence of the pain.

On Wednesday, the fourth instant, Dr. La Roche saw him with me; the intense headache was then somewhat relieved, but he complained of a severe pain down the spine, especially in the cervical region, and he described the pain at times as resembling electrical shocks. He was very restless; at one time getting up, anon lying down, and complaining of any sudden motion as aggravating the pain in the head, which was very much like an iron bar pressing upon his brain; tongue natural; no fever; pupils natural; respiration rather more frequent; action of heart more rapid, but weak, with a decided blowing sound during the second sound; secretions natural; great disinclination to talk; a general tremulousness of the muscles, and vision slightly impaired.

Thursday, 5th.—The blister on the back of the neck dressed with morphia, relieved all the spinal and frontal pain, and caused him to pass a comfortable night. Pupils more dilated, and do not respond to the light; countenance pale, sunken, and haggard; hands exceedingly tremulous; staggers in walking; complains of double vision; secretions natural; tongue slightly furred; pulse more frequent, rather weak, but no fever, and seems to depend upon excessive irritability of the heart. He seems very much dejected and apprehensive, and very feeble, the least movement increasing perceptibly the respiration and circulation. He still continues to rise every day and dress himself, and his appetite so far has been very good, seeming to enjoy all the food which is allowed him. During the evening of this day he was suddenly attacked with great restlessness and anxiety; his condition was so alarming as to cause his wife to send for Dr. Gerhard, who lived in his immediate vicinity. Dr. Gerhard, considering the attack as hysterical, prescribed an anodyne, which was attended with a happy result.

Friday, 6th.—Passed a sleepless night; does not complain of any particular pain, but seems much more depressed; speech is rather thick; forgets words; tremulousness of muscles of the whole body; is exceedingly restless, and has great difficulty in moving about, although he is dressed and lies upon a lounge; tongue almost natural; pulse frequent, but not tense; breathing rapid; heart's action quick, but no force; face pale and haggard; conjunctivæ not the least injected; pupils dilated; double vision increased; has slight alienations of intellect, seeing strange figures near him, and discoursing on various subjects; bowels open by an enema; urine rather scanty, and contained a slight trace of albumen.

Saturday, 7th.—Tongue moist, slightly furred; pulse frequent; no fever; skin moist; spent a very restless night, constantly getting out of bed; pupils dilated; mind confused; some subsultus; double vision continues; complains that he is losing his mind; forgets words, and seems to have some difficulty in speaking; no paralysis of any portion of the body; fears that he is idiotic; has no particular pain; respiration frequent; his debility has increased; craves food, and takes it with pleasure.

9th, A.M.—This day he gradually grew worse; sleeplessness increased; incessant jactitation; double vision; pupils dilated; mind more and more confused; speech difficult; pulse frequent, but no heat of skin; face more haggard, with slight fever on the brow; tongue good; heart beats rapidly, but without force, and with distinct blowing sound; secretions generally natural; no costiveness; no paralysis; complains most of want of sleep, and excessive prostration; says the pain in the head is relieved; craves food, and enjoys it; continues to get up every day, dress himself, and to rest himself on the lounge in the back room; not much inclined to talk; remains in a partially comatose condition, but is easily roused, and, save for the loss of words and difficulty in speaking, seems quite intelligent.

His condition grew gradually worse, and he seemed to sink until Thursday, the twelfth, when his skin became hot and dry, and he had considerable fever; face flushed; pupils continue dilated; left eye a little more prominent; constant twitching of muscles; more comatose, and at times delirious; no paralysis; tongue more furred, and slightly red at edges; secretions almost natural. He now grew rapidly worse, and on Saturday, the fourteenth, presented all the symptoms of effusion having taken place on the brain; he became more comatose; great subsultus tendinum, threatening convulsions; could be roused, however, and gave some signs of intelligence until Monday night, up to which period he always arose to void his bowels, and always indicated his desire to pass water. He died on Tuesday, the 17th of January, at 3 P.M.

Autopsy, made by Dr. Packard, twenty-six hours after death.

The body was very muscular, and the subcutaneous fat abundant. The genital organs were extremely small.

On opening the *head*, the dura mater was found somewhat adherent to the skull-cap. In the subarachnoid space, at the upper surface of both cerebral hemispheres, and at the outer surface of the left, were deposits of yellow lymph. The fissure of Sylvius, on each side, was obliterated by adhesions. Between the optic chiasm and the pituitary body, in front of the infundibulum, was a mass of tough lymph about the size of a large pea; the pituitary body was flattened down by its pressure.

The brain substance was somewhat congested; the anterior lobe of the left hemisphere was softened; the corpus callosum, fornix, and septum lucidum were softened to a very marked degree, the latter being partly broken down. Nothing abnormal was observed in the ventricles.

In front of the upper part of the cerebellum, just below the velum interpositum, and filling up the third ventricle to a considerable extent, was a mass of quite a firm substance, slightly lobulated, and crying under the knife. An artery which ran through this mass was found, upon microscopical examination, to be perfectly healthy.

The deposits now mentioned, being placed under the microscope, were found to be composed of lymph in various stages of organization, from mere fibrilation to completely-formed fibrous tissue.

The *thorax* was next examined. Ossification had taken place in the costal cartilages. Both lungs were studded throughout with miliary tubercles; the right pleura was universally adherent. On the left side the fissure between the upper and lower lobes was complete, dividing the organ into two distinct portions. The heart was loaded with fat, and its muscular substance had undergone very marked fatty degeneration

In the abdomen, the liver only was examined; it was somewhat fatty.

DR. HEWSON exhibited a fibrous tumor of the uterus, and tubercular ulcerations of the intestine, removed from the same patient.

DR. KEATING drew attention to the fact that, in cases of fibrous tumors, an icteroid tract was frequenly present, which caused the case to be mistaken for cancer.

DR. LENNOX HODGE stated that a similar observation had been made by Professor Hodge.

Bi-Monthly Abstracts;

OR, BI-MONTHLY NOVELTIES IN MEDICAL, PATHOLOGICAL, SURGICAL, OBSTETRICAL, PHYSIOLOGICAL, AND CHEMICAL SCIENCE.

SURGERY.

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I.—*On Scalds of the Larynx.* By PHILIP BEVAN, M.D., Fellow and Professor of the Royal College of Surgeons, Ireland, etc. (Dublin Quarterly Journal of Medical Science, February, 1860.)

DR. BEVAN, in this valuable paper, reports four cases of scalds of the larynx, produced in young children by drinking boiling fluids from the spout of a kettle, and his object in doing so is to recommend for further trial a new plan of treatment in preference to the very unsatisfactory operation of tracheotomy. In regard to this procedure he shows that its fatality does not arise from delay, as in the majority of reported cases it was performed in less than seven hours after the occurrence of the accident, and most of the cases died, although they seemed to be improved by the operation for a short time. The author divides the *symptoms* produced by scalds of the larynx into three stages; and without entering into these in full, we will merely state that in the first stage the mouth and fauces are alone affected, and the respiration unembarrassed. These symptoms may be so mild as to mislead the practitioner, and from want of attention the patient may be lost. The second stage is characterized by laryngitis, giving rise to œdema of the glottis and incipient congestion of the lungs. In the third stage congestion of the brain and engorgement of the lungs are added to the previous symptoms.

The *treatment*, which is antiphlogistic, is commenced with an emetic, followed by a cathartic enema, and the application of a few leeches to the upper portion of the sternum, the number being regulated by the strength of the child. Should signs of the second stage appear, the system is brought as rapidly as possible under the influence of mercury, by the internal administration of calomel and inunctions with the blue ointment; the severity of the symptoms, the age and strength of the patient influencing the amount of the mineral employed. Leeches, which act by diminishing congestion of the brain, are to be repeated every three or four hours, care being taken to watch their effects. In these four cases, as soon as the mercury had made an impression on the system, and the green stools were produced, the symptoms abated and the child recovered; the lungs being first relieved, next the brain, and lastly the larynx. Although this treatment has been instituted in only four cases, yet as its results were uniformly successful, this line of practice should awaken the attention and consideration which the disease calling for it most unquestionably demands. All of these patients were affected with œdema of the glottis, erect and hard epiglottis, stridulous respiration, fixed pupils, pale, bloated features, cold surface, congested lungs, and incipient coma, symptoms which are considered sufficiently bad to justify a resort to tracheotomy. The operation may be tried in extreme cases, when dissolution seems to be immediate; but Dr. Bevan believes if the antiphlogistic treatment be conducted sufficiently rapidly so as to stop or retard the progress of the second stage, and ward off injury to the brain and lungs, it will be far more successful than tracheotomy.

[As bearing upon this subject we find, in the *British Medical Journal* for January 14, 1860, a report of Dr. Sloane, of Leicester, England, upon six cases of scalds of the glottis, five of which recovered under the use of antimony and calomel, which were given as soon as the accident happened, irrespective of the presence or absence of symptoms of implication of the lungs. In the fatal case, tracheotomy was performed, and in this patient the difficulty of breathing was not so great as in one who was cured. Mr. Wright, an experienced surgeon of Nottingham, states that tracheotomy for scalds of the larynx almost uniformly proves fatal, and he is in favor of the treatment by leeches, calomel, and antimony. In the *Medical Times and Gazette* for October, 1859, will be found a statistical report of fourteen cases of the same affection, occurring in England, in which tracheotomy was performed, the result being eleven deaths, notwithstanding the operation was resorted to in from four to seven hours after the accident. We, therefore, find that of ten cases of scalds of the larynx, treated by the antiphlogistic plan, nine recovered, the fatal one having been tracheotomized. Add to the English cases of tracheotomy in the same disease, the one of Dr. Sloane, and another one which came to his knowledge, but which he did not treat, and we have sixteen cases, thirteen proving fatal and three successful. In one of the cases of recovery, it would seem doubtful, from the peculiarity of its history, whether the glottis was scalded at all, thus making the proportion of recoveries only one in seven and a half.]

II.—*Selections from a Report on Ovariotomy.* Read before the Kentucky State Medical Society, at its Annual Meeting, at Louisville, April, 1857. By J. TAYLOR BRADFORD, M.D., of Augusta, Kentucky. (Reprint from the *Louisville Medical News*, 1859; pp. 57.)

The author of this report first discusses the operation of ovariotomy and its principal performers, and then enters upon the diagnosis of ovarian tumors and other diseases with which they are liable to be confounded. Letters are produced from various surgeons, the opinion of all of whom is entitled to respect, who coincide with Dr. Bradford as to the propriety of operative measures in suitable cases of this class of affections.

One of the greatest dangers in ovariotomy is the occurrence of hemorrhage, and, as is shown by the statistical tables of Dr. Lyman and Dr. Atlee, twenty-five per cent. of the cases die from this cause. The author refers this accident to the fact of the pedicle of the tumor being on the stretch when the ligature is applied, and in one case, when turning the stump of the pedicle to see if it were bleeding, he observed a part of it contracting within the ligature. "The pedicle, but more particularly the ligament of the ovary, is very extensible and elastic. If the tumor be lifted out with much force, or by any movement which places the pedicle on the stretch, so much so that it does not contract before the ligature is applied, that part of it which is most extensible when it does contract is apt to slip through the ligature, and still, without close examination, look as though all was right."

In advocating the operation in suitable cases, Dr. Bradford remarks, that it should be avoided when the tumor is small and not affecting the patient's constitution, as well as in those cases in which the tumor is so large, and the general health so much involved that it would be hazardous to operate.

Attached to this paper is a collection of all the cases, thirty in number, that have been operated upon in Kentucky; but in many the details are meagre, and render them incomplete in point of statistical interest. Of the thirty cases, nineteen recovered and eleven died, and in twenty-five of these was the operation completed. Of the remaining five, in which it was abandoned, two recovered and three proved fatal, the cause of failure in two cases, in which it is mentioned, being in one peritoneal adhesions, and in the other adhesions to the bladder and uterus. In four cases only is the cause of death stated, three being from peritonitis and one from hemorrhage. In twelve patients adhesions existed, and in but two was the short incision practiced. The disease began in one subject at the age of nine years, or three years before the establishment of the menstrual function; in one case the patient had ascites, for which she had tapped herself nineteen times; and being operated upon, no tumor was found, but a mass of intestines glued together by old adhesions. Finally, in one case the ligature did not come away until the eleventh month.

In a note appended to his report, Dr. Bradford states that up to November, 1859, he had operated upon or been jointly connected with eleven cases of ovarian tumor. All of these proved successful, with one exception, and that was a case of fibrous tumor of the uterus. Ten of these patients are still alive, and two have each had two children. The smallest tumor weighed twenty-four pounds, the largest sixty pounds; the youngest patient being single, and nineteen years of age, the oldest married, and sixty years old. Two of these cases, moreover, seem to have been unsuited for the operation.

Dr. Bradford has, therefore, attained a remarkable and unparalleled success, and we are certainly not astonished to find him so warm an advocate of a procedure which has been abused more than any other capital operation of surgery.

III.—*On Polyps of the Œsophagus.* By PROF. MIDDELDORPFF. (Vierteljahrschrift für die Praktische Heilkunde, vol. lxii. part ii. p. 50, 1859.)

Polyps of the œsophagus, strictly so called, in which the pedicle is attached to some portion of this canal, are of very rare occurrence, and the cause of their formation is very obscure. Frerichs is of the opinion that they are produced by obstruction and enlargement of the mucous glands; whereas other pathologists imagine that they are due to relaxation and swelling of the mucous membrane, a view which is favored by the fact that these tumors sometimes form in the narrow space near the larynx, on a level with the fourth, fifth or sixth cervical vertebra, where the food must pass to reach the œsophagus, and where the lax mucous membrane is thrown into folds by the contraction of the circular muscular fibres. The former theory is, however, the most plausible. The polyp rapidly grows downward, being elongated and drawn in this direction by the movements of deglutition, which it constantly excites, and extends the structure from which it arises in such a manner as to form a fold constituting its stalk or pedicle. The parts around the tumor are in an inflamed condition and covered with a mucous or purulent discharge, and the polyp is liable to undergo various changes, as exudation, suppuration, and hemorrhage, resulting from great swelling, or contraction of the œsophagus, or destruction of its epithelium.

One of the most prominent *symptoms* of this affection is difficulty in deglutition, and as the tumor enlarges, it increases to a distressing extent, and is accompanied with pain, difficulty in breathing, and sensations of suffocation. Nutrition is interfered with; the patient has nausea, and in his efforts at vomiting the polyp may rise up in the throat or mouth, thus rendering the diagnosis easy. There is almost always a discharge of mucus, which may be mixed with blood or pus, or with both. In making an examination with a view to detect the presence of the tumor, a probang may prove useful, or, when it is seated far down, a wire noose may catch it. The diagnosis is, however, difficult when it can neither be felt nor seen, and if this be the case, and the tumor be not removed, death will ensue from starvation and impeded respiration.

In regard to the *treatment*, when the polyp is visible, it may be seized and twisted off, or it may be cut off with long, curved scissors; but these operations are liable to be followed by profuse hemorrhage, which it will be difficult to restrain. Professor Middeldorpff does not think that ligation alone is sufficient, but advises, after the ligature has been applied, direct removal by the galvanic cautery, in this way preventing suffocation, which might at any time take place. He cites a case of polyp of the œsophagus, removed by this procedure in January, 1853, which is the first instance where the galvanic cautery was employed. He considers œsophagotomy too dangerous to be advised. When the polyp is not visible, the treatment must be palliative, the object being to maintain respiration and nutrition. Should the breathing become materially interfered with, bronchotomy might be resorted to, and the stomach-pump may be used for the introduction of food, but gastrotomy or enterotomy are not justifiable.

IV.—*A Historical and Critical Examination of the Operation of Tracheotomy in Croup, with a Report of Fourteen Cases.* By A. L. Voss, M.D., Surgeon to the Canal Street Dispensary, New York. (New York Journal of Medicine, January, 1860, p. 30.)

Dr. Voss has contributed to surgical literature a very valuable and interesting paper on the operation of tracheotomy in membranous croup, and we shall refer to it here in connection with the reports on the same subject of Mr. Conway Evans and Mr. James Spence, more in reference to statistical facts in regard to the propriety of the operation than to any other points contained in their contributions.

In the treatment of croup the knife is employed most generally as a dernier resort, when it is, with some exceptions, too late to be of much avail; and surgeons are now agreed that the operation should be performed when suffocation is imminent, to admit of the free access of air to the lungs. Dr. Voss does not wait until the patient is actually suffocating, but prefers operating when obstruction of the larynx is giving rise to commencing asphyxia, provided this be not relieved by an emetic. We cannot, however, follow the author in his interesting details, but will consider the results of the operation of tracheotomy in croup, as published in a few papers of the past year and early portion of the present year.

Dr. Voss has operated on fourteen patients, their ages varying from twenty months to five years, with five recoveries and nine deaths.

In the *Edinburgh Medical Journal* for February, 1860, Mr. Spence reports thirteen cases of croup in which he has operated in the last suffocative stage, the result being six cures to seven deaths. Mr. Evans read a paper before the Medical and Chirurgical Society of London, and which may be found in the *Medical Times and Gazette*, August 27, 1859, in which he reports four cases of croup and two of diphtheria (?) occurring in patients from two to ten years of age, the operation being followed by only one recovery. The same journal for October 15, 1859, contains the results of tracheotomy in croup, occurring in the different hospitals of London. The operation was performed as a dernier resort on fifteen patients, whose ages varied from thirteen months to six years, and only four recovered.

In the Transactions of the New York Academy of Medicine, as reported in the *New York Journal of Medicine*, March, 1860, will be found the statement of Dr. James Minor, in which he says that he has operated for croup six times, and has had two successful cases.

We thus gather from recent papers reports of fifty-four cases of membranous croup in which tracheotomy was performed, with the result of eighteen recoveries and thirty-six deaths, the proportion being two deaths to one cure. Dr. Voss's article contains interesting statistics, extending over several years, of a large number of cases, and when added to the cases above reported, we find we have 1249 operations with 294 recoveries and 955 deaths, or 3¼ deaths to 1 cure.

V.—*On Tibio-Tarsal Amputation.* By M. MICHAUX, Professor of Clinical Surgery at the University of Louvain. (Presse Médicale Belge, No. 33, 1859; and British and Foreign Review, January, 1860.)

This paper was presented to the Brussels Academy of Medicine by M. Michaux, with the object of comparing tibio-tarsal amputation with supra-malleolar amputation and amputation at the place of election. The conclusions of the author are contained in the following summary:—

1. Tibio-tarsal amputation is an operation properly admitted into surgical practice. 2. It should replace supra-malleolar amputation whenever the lesions which render it necessary are limited to the constituent parts of the foot, to the upper part of the malleoli, or even to the articular surface of the tibia. 3. It should only be performed when a flap can be formed of the soft parts of

the heel, so that these may constitute a mattress for the bones. 4. If the soft parts of the heel are destroyed, or have undergone such alteration as to be unfitted for the purposes of a flap, the tibio-tarsal amputation should be renounced, the supra-malleolar operation being, as a general rule, substituted for it. 5. The best mode of performing tibio-tarsal amputation is by Syme's procedure, as modified by Jules Roux, of Toulon, taking, however, the precaution of preserving less integuments at the external side of the articulation (a modification of the author's) than is done by the latter surgeon, cutting the tendo-achillis sufficiently high, and excising the posterior tibial nerve, as recommended by M. Verneuil. 6. Pirogoff's operation may be had recourse to when the calcaneum is entirely healthy, or has undergone but little alteration at its anterior part. 7. Tibio-tarsal amputation is more difficult, more dangerous, and more slow in its after-treatment, than supra-malleolar amputation; but standing and walking being performed directly on the stump, are better executed after the former than after the latter. 8. The prothesis after tibio-tarsal amputation is far more simple and less expensive than that employed after supra-malleolar amputation. Syme's boot constitutes an excellent apparatus. 9. The best procedure for supra-malleolar amputation consists in forming an anterior flap, which, falling by its own weight, covers the bones. This is the elliptical operation, with the anterior flap of M. Poupart. 10. A procedure similar to that described by Baudens for disarticulation of the knee, should be adopted in amputation at the place of election, whenever the lesions admit of the preparatory mode being chosen. 11. Amputation at the place of election is more difficult and far more dangerous than supra-malleolar amputation, but walking is more easily performed after the former than after the latter.

12. To sum up. (*a*) Whenever the pathological condition allows of the surgeon choosing the place of amputation, he should prefer the tibio-tarsal in young, strong subjects endowed with a tolerably good constitution, whatever may be their position, sex, or profession. (*b*) Supra-malleolar amputation is suitable for aged and enfeebled subjects, who are called upon by their position to walk but little, and can obtain a good artificial limb which assumes nearly the normal form of the extremity. (*c*) Amputation at the place of election should be preferred to the supra-malleolar for young subjects, and especially children, who almost always recover after amputation. Also in strong subjects of a good constitution, to whom it is of greater importance to walk well than to disguise their mutilation, and whose position in life obliges them to undertake laborious occupations.

VI.—*On Tic Douloureux, the Painful Affection of the Face, with a New Operation for its Cure.* By J. M. Carnochan, M.D., Professor of Surgery in the New York Medical College. (American Medical Monthly, Feb. 1860; p. 142.)

In this paper, presented to the Medico-Chirurgical College of New York, Professor Carnochan gives his views of the seat, pathology, and treatment of neuralgia of the face, and describes his new operation for exsecting the superior maxillary division of the fifth pair of nerves as far as the foramen rotundum of the sphenoid bone; his previous operation consisting in the removal of Meckel's ganglion and the trunk of the nerve beyond it.

Considering the true seat of the disease to be in the whole or some part of the trunk of the nerve in front of the ganglion of Gasser, the author proposes to relieve it by exsecting the nerve on the cerebral side of Meckel's ganglion. For this purpose an incision is commenced upon the middle of the zygomatic arch, opposite the spheno-maxillary fossa, and carried forward and slightly downward to a point a little below the infra-orbital foramen, and it is further extended so as to divide entirely the tissues of the cheek and lip midway between the median line and the commissure of the mouth. The flap is now dissected from the malar and upper jaw bones, and the nerve is to be sought for as it emerges from below the orbit; and being found and isolated, the foramen and lower border of the orbit are completely exposed. A small trephine is then applied just below the foramen, and a portion of the anterior wall of the antrum is removed with the lower part of the malar and the outer portion of the superior maxilla connected with it. The cavity of the antrum being now fully exposed by removing its outer wall, the nerve is detached from before backward by breaking down the wall of the infra-orbital canal, care being taken to avoid injury to the soft parts of the orbit. The next step consists in removing the portion of the nerve running through the spheno-maxillary fossa and with it the spheno-palatine ganglion. The lower jaw must be held firmly and depressed, and the tissues upon the posterior wall of the antrum being pushed backward, the fossa containing the nerve and internal maxillary artery is brought into view. Avoiding the latter, the nerve is pulled downward and isolated from the other tissues, and the foramen rotundum is to be ascertained by tracing with the finger the anterior border of the external pterygoid plate upward to its junction with the angle formed by the body and great wing of the sphenoid bone, and passing inward from the upper part of this angle for about two lines. With a blunt hook the nerve is still further detached where it emerges from the foramen, and gentle traction being made on it, it is severed at the base of the skull. The ganglion of Meckel can now be removed.

This paper is illustrated by the case of the man Forbes, who in the course of seven years and a half was the subject of thirteen operations for a very aggravated form of neuralgia. In October, 1857, Dr. Carnochan removed a part of the second branch of the fifth pair, and with it the spheno-palatine ganglion, an operation which relieved the patient for twelve months. In June, 1859, the patient again requested an operation, when the same external incisions were made as above described, the remaining portion of the nerve was found and divided at its point of emergence from the foramen rotundum. The result has been satisfactory up to the time of the report, about seven months after the operation.

The views of the author in relation to severe facial neuralgia are contained in the following propositions:—

1. That the second branch of the fifth pair, extending from the ganglion of Gasser to the infra-orbital foramen, has two peripheries: one, formed by the terminal branches of the trunk, given off along its course, to the superficial parts of the face; the other, by the terminal branches emanating from the ganglion of Meckel.

2. That in cases of severe *tic doulonreux* (the *dolor crucians facei* of Fothergill) the seat of the disease is in a portion of the trunk of the nerve, or in the entire trunk, between the ganglion of Gasser and the foramen infra-orbitale, including that part embraced by the foramen.

3. That the trunk of the nerve being injured or diseased, pain is felt at its periphery, as well as in the part morbidly affected.

4. That impressions, acting upon the periphery of the nervous trunk, will be reflected upon the trunk, and give rise to paroxysms of neuralgic pain.

5. That the ganglion of Gasser, or the *common trunk* of the fifth pair, cannot be the seat of the disease, because experiments upon living animals, and pathological facts derived from post-mortem examination, demonstrate that when this ganglion and the trunk of the fifth pair are destroyed or injured, the eye of the corresponding side becomes destroyed from defective nutrition, and also that the other organs of special sense manifest symptoms of functional disorder.

6. That the encephalic strands of the fifth pair, on the cerebral side of the *common trunk*, cannot be the seat of the disease; as in such condition of the brain there would be symptoms denoting cerebral disturbance or disease, which never exist in tic douloureux.

7. That division of the nerve externally to the infra-orbital foramen, or anterior to the diseased portion of the trunk, will not effect a cure; because the point of disease being still left, the morbid sensibility is referred to the locality of the periphery, although that has been removed or insulated.

8. That when only a portion of the trunk of the nerve is removed, anterior to the ganglion of Meckel, the remaining portion may become affected with the disease, and the symptoms be renewed with the same severity as before the operation.

9. That the only operation which will cure the disease is the exsection of the nerve on the cerebral side of the ganglion of Meckel; because, first, the diseased part will thus be removed; second, because the two peripheries of the nerve must thus be insulated from the encephalon; third, because the influence of the ganglion of Meckel, in supplying morbid nervous sensibitity, is destroyed; fourth, because the sensibility of the two peripheries of the nerve is obliterated, and consequently external impressions cannot be reflected or transmitted.

10. That there is a possibility of the neuralgia returning for a time, even after the exsection of the trunk beyond the ganglion of Meckel, from disease attacking the small portion of the nerve still remaining in front of the ganglion of Gasser, or from pressure upon it, resulting from osteitis and contraction of the foramen rotundum; the pain being referred, as already explained, to the original seat of the periphery.

11. That in such a case, however, the stump of the nerve, whether diseased or compressed by the circumference of the foramen rotundum, would be placed under circumstances leading to atrophy or resolution; and that the disease, existing for a short time from such causes, would eventually subside.

12. That the three trunks of the fifth or trifacial nerve, emanating from the ganglion of Gasser, and supplying in their aggregate the general sensibility to the face, when affected by neuralgia, are to be subjected alike to the same rules in regard to the etiology, pathology, and treatment.

VII.—*Intra-Uterine Fracture of the Clavicle.* By WILLIAM B. ATKINSON, M.D. (Medical and Surgical Reporter, March 17, 1860.)

The patient was delivered naturally, after an easy labor, of a good-sized male child, without the attendance of a physician. A few days after, having taken upon herself the task of washing the infant, she detected a projection on the left side, between the shoulder and sternum. Upon an examination, the presence of a perfectly consolidated fracture of the clavicle was ascertained, the apex of the angle of junction pointing upward. From the fact of so short a time having elapsed from the birth of the child, and the complete union at the point of fracture, it was evident that the solution of continuity must have taken place some weeks prior to the completion of pregnancy. The mother had, some three or four weeks before her confinement, received a violent blow in her left side from the edge of a door.

PATHOLOGY AND PRACTICE OF MEDICINE.

BY RICHARD J. DUNGLISON, M.D.

I.—*Congenital Inequality of the Two Sides of the Body; with remarkable Physiological Consequences.* By DR. PAUL BROCA, Professeur Agrégé to the Faculty of Medicine, etc., Paris.

Pathological cases sometimes occur which possess so many interesting points, whether studied physiologically or pathologically, that it is difficult to decide to which department their consideration really belongs. But as every marked deviation from the natural condition of a part is a step toward pathology, if not the very first element of it, the singular malformation described by Dr. Paul Broca must be considered under that head, rather than under the subject of physiology. A boy, aged eleven, was presented to his notice, in whom the two halves of the body were unequally developed. The inequality was noticed in infancy, and has appeared to his parents to grow with the child's growth. It is considered, however, as more probable, that the relative difference may have always been the same, although the absolute difference would depend upon the general development. The body of the child is made up of such unsymmetrical halves, that it seems to be the union of parts of two individuals of different ages. The differences in the volumes of the limbs correspond to the differences in length, and are even more decided.

The right lower limb is shorter than the left by five and a half centimètres, (two and one-sixth inches,) the distance being measured from the spine of the ilium to the internal malleolus. From the spine of the ilium to the upper edge of the patella, the difference is nearly an inch greater on the left side. The spine of the ilium of the left side is depressed by nearly two centimètres, (more than three-fourths of an inch,) the depression being unaccompanied by any projection forward or backward, or with any of the deviations consequent on the lengthening or shortening of limbs affected with coxalgia of long standing. It is dependent upon the inequality of development of the two sides. In further illustration of this arrest of development, the right trochanter major is less prominent than the left; and the right half of the scrotum is less voluminous, although no difference is apparent in the size of the testicles. The two halves of the chest are unequal, but no appearance of torticollis is observed.

More curious peculiarities exist in the face, the left eye being more open than the right, and the external commissures of the eyelids being nearer the middle line of the nose on the right than on the left side. The difference is almost three millimètres, (nearly one-eighth of an inch.) Besides other special points of difference in the face, the right half of the cranium is remarkably less developed than the left. A cord placed around the head on a level with the eyebrows, and passing on each side above the ear to meet the external occipital protuberance, measures forty-eight centimètres, (nearly nineteen inches,) twenty-five centimètres (nearly ten inches) belonging to the left side, and twenty-three (nine inches) to the right. The two halves of the skull are, doubtless, unequally developed. Dr. Broca is disposed to think this inequality is not wholly external, and adduces some physiological facts to favor the supposition that it coincides with an analogous arrangement of the two halves of the encephalon. The general sensibility appears to be less fully developed in the right than in the left limbs. The examination of the functions of the organs of sense exhibits that hearing is much more perfect on the left than on the right side; and that the left half of the tongue is very decidedly larger and particularly thicker than the right, the median line being inclined to the right, and the inequality of the two halves being so well marked that an abrupt antero-posterior relief indicates the limits of the left side. This condition resembles closely that which often supervenes as a result of hemiplegia.

The child had already discovered that vision in the right eye was much better than in the left, a condition which was proved by experiments not to be dependent upon myopia of the left eye. The images of the left eye certainly appear to the child to be less distinct and less illuminated than those of the right. Curiously enough, the better eye corresponds exactly to the worse ear, and to the less developed side of the body. Dr. Broca is disposed to consider this inequality of vision as resident neither in the eyeballs nor in the optic nerves, but more posteriorly, either in the optic bands or in their central origin. Much remains, however, to be examined in this case, when the intelligence of the child of maturer years can assist the investigations of the physiologist. The malformation is not hereditary; the family to which he belongs is one remarkably gifted in intelligence, and, although he is perhaps less so than his brothers and sisters were at the same age, yet he is at least as far advanced in this respect as his companions. To relieve the child's lameness, which seems to increase with his growth, gymnastics have been recommended for the especial exercise of the muscles of the right side, with the hope of developing the muscular system rather than of lengthening the limb.

M. Brown-Séquard remarks, in a foot-note, in regard to the employment of galvanism: "The influence of galvanism may even go so far as to induce lengthening of the limbs. I have, in fact, seen in young animals limbs completely paralyzed become, under the action of galvanism, as much developed, with respect to their structure, their dimensions, and the vital properties of their muscles, as healthy limbs."—(*Journal de la Physiologie de l'Homme et des Animaux*, No. 5, January, 1859.)

II.—*Coagulation of the Blood in the Venous System during Life.* By GEORGE MURRAY HUMPHRY, M.D., F.R.S., Lecturer on Anatomy in Cambridge University Medical School.

Several cases of interest having occurred in the practice of Dr. Humphry, of Cambridge, England, he takes the opportunity of describing them in an essay, embracing, as its prominent points, Clots in the Veins, Clots in the Pulmonary Artery, Clots in the Cerebral Sinuses, and Clotting of the Blood in the Cavities of the Heart.

The results of his observations on the first point, *Clots in the Veins*, are, that in almost every case the patients have been previously reduced by some other disease, especially of a chronic form, as phthisis, or discharging abscess, or by old age. In no case had the affection been productive of the alarming symptoms which often attend upon traumatic inflammation of the veins, and which are supposed to depend upon the admixture of purulent or other morbid fluids with the circulating blood. That the presence of clots in the blood depends upon a preternatural tendency to coagulation in the fibrin, Dr. Humphry thinks is confirmed by the fact that obstruction of the vessels commences most frequently in such parts of the venous system as are most favorable to coagulation, such as the great veins of the lower extremity, where the current is more feeble, and especially at the junction of large veins, where the projecting angles furnish favorable spots for the settling of the blood, or in the vicinity of valves, which present edges to which the fibrin may readily adhere. The valves being more numerous in the lower extremities and in the deep veins than in the superficial, would explain why coagulation is of more frequent occurrence in those situations. The uneven surface of the popliteal vein also affords a favorable spot for the formation of clots. Fibrinous deposit and blood clotting do not go on regularly; hence we have a mottled appearance of the coagula.

The interior of the clot is formed by successive deposits of fibrin; the exterior is often smooth and polished, and adherent to the sides of the vessel. When the clot distends and irritates the walls of the veins, the result is exhibited externally in inflammation of the investing cellular tissue, causing an effusion of serum, lymph, or pus, products which are rarely or never found in the interior. The inner coats of veins do not, indeed, Dr. Humphry thinks, indicate a liability to inflammation, and he is disposed to regard the unfavorable symptoms which occasionally follow ligature of a vein as dependent more upon suppuration of the surrounding cellular tissue. The changes observed in the clot are, sometimes, softening and intimate connection with the walls of the vessel, leading to the complete and permanent obliteration of their canals, or, more commonly, the clots are removed or shrink into delicate bands or fibres, which offer little or no obstruction to the circulation. The affection rarely leads to any serious result; it may be associated with so-called pyæmia, but has no necessary or frequent connection with it.

Clots in the pulmonary artery originate from the same general causes and conditions as have been already detailed in the consideration of the subject of clots in the great veins. The clot has not been shown, in a single instance, to be preceded by, or to be attributable to, disease in the coats of the vessel. In some of the illustrative cases here recorded, inflammation, or pulmonary apoplexy, or some other cause, had produced obstruction to the circulation in the pulmonary artery, and thus promoted the settling of the fibrin. Especially is this condition facilitated by the varying condition of the respiration or circulation of the individual, and by the tendency of the blood to coagulate as it approaches the lungs. Dr. Humphry does not think the mode of explanation suggested by Virchow, "that 'emboli' or fragments of clots have been formed in the veins, and been wafted with the blood through the right cavities of the heart, through the lungs," probable in most of the cases. The surface of the venous clots is usually quite smooth, and not so likely, therefore, to be disintegrated by the slowly-flowing current of blood; and the effects of a preternatural tendency of the venous blood to coagulate are just as likely to be exhibited in the pulmonary arteries as elsewhere.

Clots in the cerebral sinuses are described in the case of a young girl, who died after a curious nervous attack, attended with inability to move the left arm and leg, and afterwards with drowsiness and stupor. Besides other appearances revealed on post-mortem examination, the venæ Galeni were found greatly distended with firm, mottled clots, and the same condition existed in the right cavernous, the straight, petrosal, and lateral sinuses. Some of the veins on the surface of the hemisphere were blocked up with mottled coagula. The blocking up of the sinuses was probably the earliest of the morbid phenomena, the others being dependent upon it. It does not seem so clear, however, why a deposition of fibrin should have taken place in these vessels.

Clots in the cavities of the heart form the most interesting feature, as well as the most important pathological element, in a case whose post-mortem appearances are carefully described. Death from clots filling the cavities of the heart, and all the vessels connected with the right side and the left ventricle, was clearly indicated. Many of the phenomena detected in such cases are difficult to explain, whether as changes taking place after or before death. Fibrinous clots frequently fill up the cavities of the heart, and are prolonged into the adjacent vessels, and extend into the most dependent branches of the pulmonary arteries, the lowermost portions of the clots being as devoid of color as the uppermost. Yet it seems pretty certain that clots of this kind are, for the most part, formed after death. Dr. Humphry differs from Dr. Richardson, in his remarks "On the Coagulation of the Blood," in the view that the tubular or the laminated structure of a clot, or that a clot consisting of a fibrinous tube containing red blood in its interior, is conclusive evidence of the coagulation having begun before death. Under favorable circumstances, the lamination may be effected by peculiar disposition of the fibrin in plates or layers after death; and the same fact may be asserted in regard to the tubular form of the clot. The same post-mortem tendencies may apply also to the deposition of fibrinous clots on and near the valves, on the interior of the vessels, and between the columnæ carneæ of the heart.

In this way a tubular lining of fibrin may be laid down in the interior of the pulmonary artery after death, and be moulded upon the sigmoid valves, while the remainder of the blood in the vessels is fluid. This remaining blood subsequently coagulating would form a soft, dark, cylindrical clot, inclosed in and continuous with the fibrinous tube. Still later the contraction of the whole clot, more particularly of the outer fibrinous tube, would draw it away from the sides of the vessel and leave it free in the interior, or nearly so. Thus, by a sequel of intelligible *post-mortem* processes we may have produced those tubular fibrinous clots containing red, clotted blood in their interior, as well as those fibrinous or parti-colored strings between the columnæ carneæ, which have been described by Dr. Richardson and others, and which are commonly thought to be dependent upon changes going on during life. Such clots are not always formed after death, but they may be so; and care must be taken, therefore, how we admit these and other similar appearances to be evidence that the coagulation of the fibrin has taken place during life.

We have purposely omitted the details of a number of interesting cases under each prominent point which we have considered, and have preferred to give a sketch of Dr. Humphry's views. The subject is certainly a suggestive one, on which much light may yet be thrown by careful observers, among whom the author of the essay we have been considering may well be placed.—(*From the British Medical Journal, and a reprint in pamphlet form*, pp. 42; Cambridge, 1859.)

III.—*A Case Illustrating the Pathology of the Cerebellum.* By G. ROLLESTON, M.D., F.R.C.P., etc.

Two symptoms of cerebellar disease have been observed in several recently recorded cases, which, when combined, are considered by Dr. Rolleston as pathognomonic. The first is an inability to maintain the erect posture when raised into it, coupled with complete power over either or both of the legs when in the horizontal posture; the second, stiffness of the neck. An illustrative case is furnished by him, and he attempts to show that "what we know alike of the pathology and of the physiology of the cerebellum is clearly explicable on the hypothesis that that great nerve-centre stands in the same relation to the motor nerve nuclei of the trunk and (posterior?) limb muscles, as the corpora olivaria do to the motor nerve nuclei of the face, tongue, and throat muscles." The corpora olivaria, it may be remarked, have been considered by some observers as agents modifying the impression which they have received from the medulla oblongata, so as to call forth, when reflected on to motor nuclei, and down motor fibres, the required bilateral muscular action. The patient, a child ten years of age, was seized, early in 1859, with a "bad cold in the head," and with chills. A week or two afterwards she could not maintain the erect position, although she had the power of moving her legs when lying in bed. She suffered from rheumatic fever, and in about three months or more after the first attack had two convulsive fits, after which she began to recover the use of her lower limbs, and to sit up. She could always use her hands and arms.

As described by Dr. Rolleston, nearly nine months after the appearance of her first symptoms, she can turn her head from side to side on the pillow, not, however, without considerable difficulty in accomplishing it, while she catches at her head and supports it in her hands, if she be raised up in bed. If the head be left unsupported, it falls to one side or the other. She can walk along by the side of a wall or table, provided she can get some support for her head, and the hand and arm she rests it upon. She has stiffness of the neck, but not of both sides of the neck at the same time. When the head falls over, it does so with much greater force than its mere weight would account for. Dr. Rolleston considers that "for the support of the head, consentaneous and bilateral muscular action is required; but when the functions of the cerebellum are in abeyance, this result is not obtainable even in obedience to the orders of the will. But no bilateral action is necessary for the turning of the head from side to side, if the back of the head lies supported on the pillow. This movement she can execute, therefore, just as formerly she could move either leg while lying horizontally, though unable to maintain the erect posture." It is conjectured that the meninges of the cerebellum were first affected, although the unavoidably imperfect history of the case interferes with the expression of a certainty in the pathology. —(*London Medical Times and Gazette*, Feb. 18, 1860.)

IV.—*Phthisis of the French Millstone-makers.* By THOMAS B. PEACOCK, M.D., F.R.C.P., etc.

Of the influence of certain occupations as exciting causes of disease, and especially of the prevalence of tubercular consumption among those engaged in some trades more than in others, much has been written and observed of late years. As long ago as 1727, Wepfer noticed the frequent occurrence of phthisis among millstone-cutters on the Rhine; while in 1799, Dr. Johnstone described to the Medical Society of London numerous cases of "grinder's rot," as consumption among the needle-pointers of Worcestershire was locally called. Many other observers have noticed similar facts, and the experience of medical men among the workers in stone and metal in Edinburgh and Sheffield long since established the fact, that those occupations in which the particles of stone or metal are thrown off, and inhaled by the workpeople, exert a very injurious influence on their health. Dr. Peacock draws attention to the prevalence of pulmonary disease in a class of workmen among whom, he thinks, it has not been hitherto particularly noticed—the French millstone-makers or builders.

These men work upon a peculiarly hard kind of flint, known in the trade as the "French burr." Every stroke of the chisel is attended by a bright flash of light and a cloud of dust, and larger or smaller particles of stone, forming a sharp grit, are thrown off. Portions of the stone and of iron from the chisel not unfrequently become imbedded in the hands or faces of the workmen, so that the backs of the hands of those who have been long at the trade are studded with small bluish spots. Dr. Peacock was informed by the foreman of one of the yards, that he had known at least twenty persons die of chest affections out of the small number, not, perhaps, exceeding fifty, who were employed at the work in London, the oldest workmen not having been employed more than thirteen years. He notes the difference between men thus engaged, and those who in the same establishment are occupied in wire-weaving, etc. The results arrived at by him may be thus arranged:—

The average age of wire-weavers was 35·84 years; of millstone-cutters, 24·1 years. The ages of the five oldest wire-weavers were 71, 43, 42, 40 and 40;

while the five oldest among the millstone-cutters were still very young men, their ages being 38, 29, 29, 28 and 28. The average period during which the former class had worked at the trade was 20·69 years, and eight of them had been engaged for 51, 32, 29, 25, 25, 24, 24 and 22 years; while the average period during which the millstone-cutters had worked was but 8·9 years, and the three who had been longest engaged had been 18, 17, and 14¾ years. Yet the wire-weavers, as a class, are stated to be less healthy-looking than the millstone-cutters, although enjoying in the main much better health. Workers in metal, too, must labor under less favorable hygienic circumstances than the other class, for their occupation confines them more steadily indoors.

Besides the irritating effects of the fine dust upon the air-passages, other causes of deterioration of health also exist, such as working in damp underground cellars or open sheds exposed to the weather, the difficulty of expanding the chest while leaning over the millstone, and the irregular habits of the workmen. The men are accustomed to take large quantities of beer and spirits in the course of the day, four or five pints of beer being by no means an unusual allowance. Dr. Peacock does not consider the causes named sufficient to explain the great tendency to pulmonary affection among the millstone-makers, apart from the injurious influence which is exercised by the gritty particles of silex which they inhale while at work. This, he considers, is the main cause of their sufferings.

The history of two cases of phthisis is given, and the post-mortem examinations are carefully detailed. In one of the cases, in which the diseased portions of lung were greatly indurated, little or no trace of original lung-structure was found, upon microscopic examination, to exist. The diseased masses appeared to be made up of dense, closely-arranged fibroid tissue, studded here and there with numerous irregular groups of black pigment, and generally with an abundance of transparent granules and globules of various sizes. When the indurated tissue was exposed to heat and nitric acid, a considerable quantity of gritty matter remained, which was inferred to be siliceous. Dr. Peacock considers it probable that in persons who become phthisical from being exposed to local irritation from the inhalation of particles of stone or metal, the disease will be slower in its progress, and be preceded by more marked symptoms of faucial and laryngeal irritation than under other circumstances.

The work is much less injurious to those who take to it when more advanced in life than to those who enter it in youth. Means are suggested by Dr. Peacock to improve the health of the men, which, if properly attended to, would doubtless prolong the lives of the millstone-builders. The avoidance of damp underground cellars, the upright instead of the stooping position, the working of wet instead of dry stones, and the employment of respirators to protect the air-passages, are the means suggested to mitigate the injurious effects of this occupation.—(*British and Foreign Medico-Chirurgical Review*, Jan., 1860.)

V.—*Small-pox in Scotland, as it is, was, and ought to be.* By ALEXANDER WOOD, M.D., President of the Royal College of Physicians, Edinburgh.

Whenever statistics are carefully collected, they become valuable sources of information, especially in pathology, when it is practicable to compare the results of different modes of preventive or curative treatment. Especially are they interesting when considered in relation to such a scourge as small-pox, whose annual ravages in Europe alone at the close of the last century have been estimated at half a million of lives. To explain and correct an erroneous impression in regard to the spread of insanity, Dr. Wood considers the past and present history of the disease in Scotland, and furnishes useful hints for future protection from it. The inferences he deduces on the present history of small-pox are—

1. That the disease is not steadily increasing year by year, but that it fluctuates in frequency and fatality just as it did before the discovery of vaccination.
2. That at one time it prevails extensively in one town; at another it leaves it and ravages another. In 1856, Dundee, and in 1857, Glasgow and Leith, were the towns principally affected by it.
3. That taking the year 1856, when small-pox was epidemically present, out of a total estimated population of 854,066 individuals, 645 died of small-pox.
4. That the total mortality from all causes being in that year 22,248, the deaths from small-pox (645) thus constituted 2·8 per cent., which is double the average of London for the last ten years, or of England and Wales for the last seven, and fourteenfold the average of Bohemia and Lombardy.

Dr. Wood shows how small-pox, as controlled by vaccination, possesses the same tendency that it did when it presented its severest characters, to rapid and sudden alterations of prevalence. The total deaths from it in Scotland for 1856, for example, were 645, while in 1858 they were only 175, and in 1859, 466. In the returns collected by the Faculty of Medicine of Prague, we find additional confirmation of the fact. In 1797, before vaccination, of 86,885 deaths, 1988 were from small-pox, while, in 1799, 17,587 deaths from that disease occurred in a total mortality of 99,079. After vaccination, 62 deaths from small-pox occurred in 108,419 deaths in the year 1838, while in 1840 the number was 699 in a total of 118,471 deaths.

Of *small-pox as it was*, previous to the common use of vaccination, statistical figures seem to indicate a percentage of deaths, in the total mortality, of about 18. Instead of 645 deaths in 1856, the number should have been, according to this proportion, 4003 deaths. The disease formerly attacked a very different class in the social scale from those who become its victims at the present day. Severe attacks are now unfrequent, and deaths exceedingly uncommon among the upper classes of society; and the disease, when it does occur among them, is usually of that modified form which it assumes when it attacks those who have been vaccinated.

Of *small-pox as it ought to be*, Dr. Wood questions whether the maximum of benefit which vaccination is capable of conferring has yet been attained. Of his remarks on the comparative value of inoculation and vaccination, we need not speak, except to state that the Report of the Epidemiological Society (*Brit. and For. Med.-Chirur. Review*, vol. xx.) exhibits that, during 63 years, in which inoculation was practiced, there was a ratio of 84 epidemics in 100 years, while during the last 50 years (from 1807) the ratio is 24 epidemics in 100 years.

Dr. Wood considers it very doubtful whether small-pox will ever be entirely exterminated by general vaccination, because the disease spreads epidemically as well as by contagion; because there are individuals to whom neither a previous attack nor vaccination affords immunity from a subsequent attack of the disease; because the mortality from small-pox in the unvaccinated, taken generally, is 35 per cent. of those attacked; but of children under five years of age, it is 50 per cent., the mortality among the vaccinated attacked by small-pox being 7 per cent. taken generally; among the badly vaccinated, it is 15 per cent.; among the well vaccinated, 1 per cent.

The deaths from small-pox in Scotland are never less than 2 per cent. of the whole annual mortality in the eight large towns, and in January, 1856, were as great as 30 per cent. in one of them. The suggestions of Dr. Wood in regard to legislative interference in the matter of vaccination, gave rise to considerable discussion in the Medico-Chirurgical Society of Edinburgh, but the plans recommended are more of local than of general interest.—(*Edinburgh Medical Journal,* February, 1860.)

VI.—*Œsophageal Fistula communicating with the Exterior of the Right Side of the Chest, through the Lungs and Pleural Cavity.* By CHARLES F. MACLACHLAN, M.D.

Dr. Maclachlan furnishes the details of a case, which he very properly regards more as a medical curiosity than as having much practical value, except as an additional evidence that a great amount of disease may exist and be compatible with life and sometimes with comparative ease. The patient, a young woman, twenty-five years of age, became subject, about eleven years ago, to severe pain in the right infraclavicular region, shooting down the arm and forearm. In 1857 she had an attack of hæmoptysis, with pleuritic pain at the lower part of the region just mentioned. In the spring of 1858 she complained of considerable pain in the neighborhood of the right nipple, and in May an abscess was discovered, pointing externally, slightly below and to the left of the same nipple. Slight emphysema existed at some parts of the surface, and the pain was intense. A large quantity of offensive pus and some air were discharged from the abscess when it was opened, and great relief followed for awhile. Pain in the throat soon supervened, however, just below the larynx, at the "swallow," as she expressed it; and, in a few weeks afterwards, she noticed particles of oatmeal and of food in the matter discharged from the abscess and on the dressings. Long pieces of lymph were discharged from the abscess for several months afterwards, their passage being accompanied with a great increase of the local pain.

Her present condition, as described by Dr. Maclachlan, is interesting. Very little food passes through the fistulous opening when she remains in a recumbent position. Warm gruel and milk appear externally at the orifice immediately after being swallowed, if she be seated in an upright posture. She has suffered from rheumatism and dysentery while confined to bed; her breathing has been comfortable ever since the abscess was opened; she has no cough or expectoration; the same kind of pain in the right breast annoys her, and her feet and legs are œdematous. The local appearances are, three fistulous openings in a row, one above the other, commencing about two inches above and to the left of the nipple; the lowest one, from which the discharge comes, being about one inch below the level of the nipple. Percussion indicates unusual clearness of the right side of the chest, especially at the upper part, anteriorly and posteriorly; and in these situations, metallic tinkling, amphoric resonance, and gurgling are heard, indicative of a large cavity containing fluid and air.

Dr. Maclachlan suggests that an abscess of the lung, opening into the pleural cavity, was the primary cause of the abnormal condition now existing, and expresses the belief that the opening into the œsophagus must be beyond the bifurcation of the bronchi, as no appearances have existed to indicate a fistulous tract running through the soft parts of the neck in the neighborhood of the trachea, toward the pleural cavity.

Dr. Maclachlan does not give any prognosis in regard to the future history of the case; we trust, however, that he may hereafter record any changes of interest, which he may find in its progress toward recovery, or a reverse condition.—(*Glasgow Medical Journal,* January, 1860.)

VII.—*Virchow's Views on Cellular Pathology.* By G. H. E. BAUMGARTEN, M.D.

The researches of Professor Rudolphus Virchow on "Cellular Pathology, based on Physiological and Pathological Histology," have not been accessible to the great majority of the profession, on account of the German garb in which they were clothed. In the *British and Foreign Medico-Chirurgical Review* for October, 1859, his doctrines were criticised and dwelt upon analytically by one who appreciated their weakest points as well as their strongest claims to credence. We condense what Dr. Baumgarten has furnished to American readers as his view of Virchow's pathological theories. The basis of the theory of cellular pathology is the principle that a single cell or group of cells, operated upon by the same cause of disease, may be altered chemically, morphologically, and functionally, without any primary affection of the blood or the nervous system. As every individual cell is supposed to have an individual function, it is inferred that the function may become deranged, and disease result, and that each cell may become diseased alone, without pre-existing disease in its vicinity. With this groundwork for a general doctrine of cellular pathology, the views of Virchow are extended to embrace a wide field of scientific theorizing, much of which is doubtless true, but much must also be hypothetical.

After defining the distinctions between an animal cell and a vegetable cell, the importance of the intercellular substance is alluded to, and from the different relations which the cells bear to each other and to the intercellular substance, the mode in which tissues are built up is explained. The group of tissues in which cells have taken a specific development comprises those which are essential for the character of an animal, as nerve, muscle, and the vascular system. Those tissues in which the cell not only labors for its own nutriment, but also furnishes a certain quantity of substance outside of its walls, comprise the connective tissue and all that is related to, or developed from it, including areolar tissue, cartilage, mucous tissue, adipose tissue, and bone. Pathological formations may be classified on the same principles as the normal tissues just referred to, and, in this sense, heterology of pathological products does not exist. *Heterological* formations, they can be called, only so far as they have elements analogous to some physiological formation, existing on a spot where they ought not to grow, (*heterotopical,*) or at a time when they should not exist, (*heterochronical,*) or only in a greater quantity than is proper, (*heterometrical developments.*) The physiology of the nutritive process must be understood before the pathological condition can be thoroughly intelligible.

In the processes of active hyperæmia, the muscular elements of the artery are essentially active, relaxation speedily following irritation. The dilatation of the vessel depends in all cases on a sort of paralysis of the muscular coat, and "active hyperæmia," so called, consequently does not depend on any vascular action. The greater or less quantity of blood which flows through a part is not the cause of difference in nutrition. If we diminish the quantity of nutritive material, we can prevent a part from absorbing much, but it does not follow from this, that we can compel a part to assimilate more material by offering more blood to it. Nor does an increase in the nutritive processes of a part depend so much on a greater amount of blood in general or in the part itself, as on certain states of the tissues, (*irritation,*) which change its affinities to the constituents of the blood, or on the presence of specific substances in the latter, which are particularly attracted by certain parts of the tissues. An element, destined to attract substances from the blood, must be intact; any alteration of its molecular, physical, or chemical properties, by disease, will alter the power of executing this attraction. Cellular pathology merely demands that this law, so true in regard to the larger organs, should be admitted as equally applicable to the smaller organs and elements; that it be conceded that an epidermic cell, a cartilage cell, etc., also possesses in some measure the power of attracting materials from the blood according to its wants. The various distinctions between the humoro-pathological doctrine and those of the cellular pathology are pointed out, especially in the view of the blood being an independent formation, regenerating itself by its own resources. The theory of Virchow denies this, and considers the blood as constantly dependent on other organs. The history of the pathology of pyæmia, embolia, and the chemical dyscrasiæ, properly form a part of this branch of the subject, which is discussed at length in the original paper of Virchow. In his theory of independent cell-action, and in his refutation of the doctrine of the neuro-pathologist, he remarks that "every element can be excited to action without any influence or mediation of the nervous system;" and this observation is extended to the different action of different irritants on nearly all excitable parts.

In the limits of this abstract, we can, in addition to the points already considered, merely refer to the remaining subjects of Dr. Baumgarten's analysis of Virchow's views. These are, the phenomena of nutritive irritation, increased assimilation from a direct external irritant, formation, changes in the development of cells, the definition and pathology of inflammation in all its manifold phases, the difference between normal and pathological developments, the formation of mucus and pus, and a number of other materials for reflection and sober consideration. To these are added Dr. Baumgarten's recollections of other views of Virchow, as contained in his lectures and writings. The subject is so minutely histological in its details, that a good deal of the interest which might otherwise be felt in it is lost to those who may find a difficulty in comprehending the refinements of division in which the theory indulges.—(*St. Louis Medical and Surgical Journal*, January, 1860.)

OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN.

BY WM. B. ATKINSON, M.D.,

LECTURER ON OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN.

I.—*Post-Partum Hemorrhage: Its Treatment.* By T. G. Thomas, M.D.

Having given in our last number an abstract of a lecture by Dr. Thomas, on the *Prevention of Post-Partum Hemorrhage,* it is eminently proper that its treatment should follow next in order.

The varieties of hemorrhage, as occurring in the lying-in chamber, are: internal, external, immediate, remote.

The sources of hemorrhage are from ruptured vessels of the vulva, from the os and cervix uteri, from the uterus and placenta.

The causes are inertia uteri; uterine exhaustion; sudden evacuation of the contents of the womb; mental emotion; excited circulation; adherent placenta; distention of the uterus by blood, or another child.

The indications to be fulfilled are, to prevent death by syncope or exhaustion; remove anything preventing uterine contraction; force the uterine fibres to contract. To fulfill the first indication, we must admit a current of air; lower the patient's head; give brandy and ammonia, if necessary; let an assistant stand ready to dash cold water into the face. To accomplish the second indication, pass the hand into the uterus up to its fundus, and by gentle titillation of the uterine fibres, cause them to contract, and remove everything which will be liable to prevent a full and permanent closure of the uterine vessels. For the third indication, keeping one hand in utero, grasp and knead the fundus with the other; have a stream of water poured on the abdominal walls, from a height of about four feet; give full doses of ergot; pass lumps of ice into the vagina, and, if necessary, into the uterus, and also throw enemata of ice water into the rectum. To cause the contraction to be permanent, do not allow the binder to be applied for some hours, but keep the uterus constantly in the grasp of a trusty assistant, for twelve hours or longer if necessary; apply the child to the breast; keep up the action of ergot; should vomiting exist, give it per rectum; rouse the dormant energies of the uterus by an enema of spirits of turpentine with mucilage or oil; let the patient drink cold and acid draughts. Do not annoy the stomach, and lose this important avenue to the system by the use of gallic acid, lead, or opium, *which do not fulfill the indication.* The time for these may come, but this is not it.

The after-treatment will be indicated by the symptoms: as supplying artificially the brain and other important organs with blood; preventing death from exhaustion; quieting the perturbed state of the nervous system. The first will be fulfilled by keeping the head very low; raising the legs and arms in the air, supporting them thus by pillows, etc.; applying tourniquets to the femoral and brachial arteries, and thus cutting off for a time the supply to the extremities; gentle pressure by roller bandages applied the whole length of the arms and legs; and finally, transfusion. The second, by the administration of brandy, ether, or ammonia; after the most pressing symptoms have passed, by beef essence, milk-punch, or eggs beaten up with wine; quiet, solitude, and darkness. The third, by opium in no stinted dose, four grains of the powder, or a drachm of the tincture, every half hour or oftener, watching the effect, not the amount; morphia applied by the hypodermic method. The sharp point of the syringe of Dr. A. Wood, of Scotland, is passed under the skin, giving very little pain, and ten drops of the solution of sulphate of morphia are injected. Narcotic symptoms show themselves in two or three minutes.—(*N. Y. Jour. of Med.*, March, 1860.)

II.—*Special Position and the Obstetric Binder as Aids in the Treatment of Impeded Parturition.* By ROBT. HARDEY.

The position advocated is the sedentary on chairs, first proposed by the late R. M. Craven, Esq., of Hull, in 1827, and which, from that time, has been adopted by Mr. Hardey in all cases where the difficulties to be overcome demanded more than ordinary efforts for delivery. All agents which sustain and increase motor force are real benefits to the parturient female. Two of the most valuable are the sedentary posture and the obstetric binder. The plan adopted is to secure the fronts of two chairs to each other, and separate their backs, from one and a half to two feet; to place the patient well over or between these, with her knees firmly pressed against the side of the bed, her chest fixed by holding on to the foot post of the bed, and her feet placed firmly on the floor. The accoucheur sits or kneels behind the patient, who remains on the chairs till the difficulties are overcome, evidence of which is obtained by the emerging of the parietal bones from behind the perineum. The woman is then removed to bed, and finally delivered in the ordinary position. Before seating the patient, her abdomen is to be carefully sustained by a broad binder. In every case, before adopting the sedentary posture, the part presenting should be somewhat within the pelvis, and the os uteri half dilated. The practice is contra-indicated by impending exhaustion, inflammation, convulsions, hemorrhage, version presentations, and extreme pelvic obliquity. The author claims that he thus secures the aid of gravitation; the highest amount of motor energy; the bringing of the abdominal and pelvic axes into the same obstetric plane; the imparting of great support to the fundus uteri in its contractions, by the binder. He recommends this plan for its simplicity; freedom from danger; great potency; its testing the ability of nature to accomplish the delivery at a period sufficiently early to enable the accoucheur to decide on the use of instruments before material damage has been sustained by the maternal tissues; and its being a great economist of professional time.

It was, however, not intended to supersede the position on the left side, which is admirably suited for the greater number of ordinary labors.—(*Obstetrical Society; Med. Times and Gazette*, March 17, 1860.)

III.—*Influence of the Mother's Mind on the Fœtus in Utero.* By JOHN M. WATSON.

After a very interesting investigation of this matter, Dr. Watson sums up thus:—

Instinct may produce changes in animal organisms in a variety of ways.

The soul or mind acts through a material organization, which may be changed by its influence. The human organism undergoes very striking changes when the mind is kept in abeyance by animal passions and bestial habits. The passions may produce lesions of structure, various diseases, and often death. The mind when improperly employed may develop premature puberty, premature ova, and premature menstruation, to which may succeed premature conception; and all the energies of both soul and body being directed to this uterine function, may not certain images, under strong mental excitement, be transferred to the embryo? The embryo is sometimes altered or changed in organization in various ways, through the mother's mind or imagination.—(*Nashville Jour. of Med. and Surg.*, Feb. 1860.)

IV.—*The Uterus and its Inflexions.* By PROFESSOR ROKITANSKY.

1. The vaginal portions of the uterus of a multipara, and the connected vaginal roof, is formed out of a duplicature or folding-in of the vagina, in which the lower end of the uterus takes a part. So soon as the uterus has passed into the vagina, the latter surrounds it like a ring, forming an intussusception. In front, the doubling is shorter, and is attached by loose cellular tissue. Hence, the anterior lip is thicker, and the vaginal roof more shallow. After many labors the distinctions become less. On section of the uteri of young persons, it is seen that the vagina, after it has formed the duplicature constituting the roof, is continued into the uterus. The mucous membrane and the layer of the two grow into the corresponding tissues. A second, outer, loose, muscular, longitudinal, fibrous layer of the vagina goes outside, over the duplicature, and spreads over the body of the uterus. In more mature uteri, and those which have been pregnant, there is interposed between the mucous membrane of the cervix and the longitudinal, muscular layer, a richer mass of uterus which ends in a point in the anterior lip of the vaginal portion. At the anterior side of the uterus runs the round ligament, separating into two muscular bands; the upper run together at the fundus, the lower under an angle in the neighborhood of the os uteri internum, thus forming a lozenge-shaped space. At the seat of union of the lower bands, in uteri of this description, there strikes a band of about an inch broad, in the form of a bow, the fasciculi of which fix and enlarge the duplicatures. On the posterior wall of the uterus, the ascending band is continued over the cervix into the vagina; or there proceed, also, from the end of this band, in the neighborhood of the os uteri internum, two strips of the form of a sharp bow, to the vagina. The strong mucous membrane of the cervix, and the thicker connective tissue on the posterior wall, do not terminate at the os internum, but, becoming thinner, go on to the body of the uterus. This forms the support of the mass of the uterus, and the foundation of its upright position, and shares essentially in flexions. Inflexion of the uterus, forward or backward, always falls in the region of the os internum. Flexions of the cervix seldom happen. The stratum of connective tissue is always found less thick, looser, thinner, and even wasted away. Hence, anteflexion is more frequent, and in less degree, as it grows to infraction; retroflexion is less frequent, but oftener in extreme degree, and very seldom grows to infraction. Anteflexion, moreover, most commonly appears in the virgin uterus, or at least it is apparently in no relation with labor; retroflexion, on the contrary, hardly ever arises but after

repeated labors, or abortions.—(*Allg. Wiener Med. Zeitung*, No. 17, 1859; *Brit. and For. Med.-Chir. Rev.*, January, 1860.)

2. *On the Origin of Uterine Flexions.* By PROF. VIRCHOW. This writer sums up thus: At the seat of infraction there is found no primary alteration of tissue. Simple relations of pressure, distinguished from actual tumors, cause no anteflexions, but mostly retroflexions. Filling of the bladder and rectum cause distinct changes of position of the uterus. The changes are no longer possible when the body of the uterus is fixed at a certain height. In original shortening of a lateral ligament, there are found in children only lateral dislocation and inflexion; in persons beyond puberty, anteflexions. Anteflexions are more frequent in normal, retroflexions in pathological conditions of the uterine walls.

Hence, he draws the following therapeutical deductions: In the history of flexions there is a period of simple predisposition, one of simple flexion, and one of flexion complicated with various inflammatory processes; the predisposition is frequently given by partial forms of peritonitis, which appear with colicky attacks, and are apparently very difficult to mitigate; long retention of urine and fæces favor the formation of flexions, especially at the menstrual period, that of child-bearing, etc.; enlargements of the uterus, especially when united with relaxation, quickly cause flexions, and the removal of these may materially alleviate them; hence, the antiphlogistic treatment of uterine catarrh, and most careful watching of the menstrual and puerperal processes are necessary; a complete removal of anteflexion seems in the highest degree doubtful, while in retroflexion it may be expected. When flexion is connected with consecutive processes, as endo- and peri-metritis, a careful local treatment is necessary.

Virchow remarks upon the views of Rokitansky, as given in the preceding article, and does not regard atrophy at the seat of infraction as primary or essential, for in anteflexions of infantile and maiden subjects there is not the slightest alteration of the uterine wall to be found. He does not consider the anatomical description of Rokitansky as in all points correct; thus, the mucous membrane of the cervical canal cannot be called callous, for it is here relatively thin; it more resembles granulation tissue. The fibro-muscular tissue of the uterus is found as well in the body as in the neck; it contains more muscular fibres and vessels in the body, and more fibrous connective tissue in the neck. Toward the mucous membrane the muscular fibres in both places cease, and there is found a distinct, apparently thick, but in the normal state by no means thick, submucous layer.—(*Ibid.*)

V.—*On the Difficulty of Diagnosis between Pregnancy and Tumors of the Abdomen.* By ROBT. C. CROFT, Esq., L.R.C.P., Edin., etc.

There are few cases likely to prove more embarrassing, especially to the young practitioner, than those in which he is called to determine the nature of abdominal enlargements. These depend upon so many causes, and are often so masked, that it is frequently impossible to give an opinion with safety. When such protuberances exist in the male, the diagnosis, as far as pregnancy is concerned, is perfectly clear, but in the female, whenever her abdomen begins to enlarge, and if she be at the child-bearing age, pregnancy is at once suspected as the cause. There are two classes of women who come under our care who frequently baffle the medical man in his examination. These are unmarried women, who have hence no legal right to become mothers; and those who, being married, are eagerly desirous of becoming mothers. The first class will strongly deny symptoms that may exist, and place every obstacle in the way of the obstetrician; the second, by her hope of being pregnant, will be induced to describe imaginary symptoms. To illustrate these remarks he gives the following case:—

Mrs. ——, aged forty-two, married nineteen years. No children or miscarriages; in bad health; has had fistulæ in ano. Six years ago was struck in the right lumbar region by the pole of an omnibus, from which she has suffered more or less ever since. Two years ago, injured again in the right groin. When requested to see her she believed herself *enceinte*, and was suffering from distressing sickness. Felt, six months previous to the visit of her physician, a peculiar sensation in the region of the uterus. The catamenia appeared regularly till two months ago, when they ceased entirely; the breasts were full and painful, and there was a tumor in the lower part of the abdomen.

The next visit she was in bed; her countenance pale and anxious, breasts full and tense, tender to the touch, containing milk, which could be extracted; nipples large and sore; areolæ raised and darkened; abdomen tense and tympanitic, and just above the symphysis pubis was felt a hard substance, the size of an orange, in the pelvis, and well defined, nearly in the middle line of the abdomen, and inclined to the *left* side; no discharge from the vagina. By a stethoscopic examination a peculiar whirring sound was heard, like the placental murmur, to the *right* of the middle line above the pubis. From this time for three weeks no pain save in the breasts and nipples; the sickness constant; the only relief obtained was from ice. After a time the sickness abated, and food could be taken. At her next menstrual period she suffered, for three days, violent uterine pains; no discharge, the tumor seemed to have increased in size, and to be higher in the abdomen.

She was seen by other practitioners, who seemed equally doubtful as to the existence of pregnancy. But slight changes were observed for some five weeks. Kiesteine, on every examination of the urine, was detected. Now a new symptom arose; profuse spontaneous salivation came on. An examination, per vaginam, showed the cervix uteri shortened, the os opened, the lips puffy and swollen; on pressing upward with the finger, behind the symphysis, a hard substance was felt, very much resembling the head of a child at a late period of gestation. Dr. Robert Lee and Mr. Havers saw her, and while admitting the presence of most of the symptoms of pregnancy, yet declined to give a decided opinion. The only certain sign, the pulsation of the fœtal heart, could not be detected.

December 17th.—The condition of the patient pretty much as before; the tumor appearing to occupy the whole of the upper portion of the right half of the abdomen as high as the ribs, and extending deeply into the lumbar region. On pressure, a substance, like the gravid womb, was felt, and *in it* a distinct movement as of a fœtus. With the stethoscope, the peculiar sound was heard as before, with a cooing as of a dove. Upon shifting the instrument a little higher up, the fœtal heart was heard distinctly. Being now certain of the existence of pregnancy, the tumor was attacked, by directing the nurse to rub it gently, night and morning, for a quarter of an hour, with liniment of iodide of potassium. By the first of the succeeding March, the patient was still vomiting freely; the abdomen large, tense, dull on percussion; the umbilicus prominent; the ensiform cartilage pressed out; the abdomen measuring forty-two inches round. When a contraction of the uterus occurred, the tumor was very apparent.

May 10th.—After a severe labor, delivery took place. The placenta having been removed, a large firm mass was felt, seeming to occupy nearly the whole of the abdomen, and extending crosswise from the left ilium to the ribs on the opposite side. By firm pressure, the greater portion of the tumor sunk into the pelvis, leaving a large, round, hard ball loose in the abdomen. It was evident that the womb had been distended by the effusion into it of a quantity of blood. From this time all went well, the tumor remaining about the size of a large cricket ball, seemingly attached by a very small pedicle.—(*Lancet*, January 28, 1860.)

VI.—*Practical Remarks on Fœtal Auscultation.* By R. DRUITT, L.R.C.P., London.

The readers of the *Medical Times* have been startled by the announcement, on the part of one of the most learned physicians in the world, that the fœtal heart cannot be heard before birth; that if certain sounds be heard, said to be those of the fœtal heart, there is no certainty attainable that they are what they are supposed to be; and that the commonly described sounds are illusions, and exist only in the minds of the listeners. First of all, as to the facts asserted, and the reasonableness of them. To many physicians it is absolutely certain, that at most times, in women pregnant of a live child, especially after the fifth month, there can be heard, over some part of the enlarged uterus, a small and distant, but often remarkably distinct heart-beat, varying from 140 to 180 in the minute. By a heart-beat is meant a double beat, of one louder and more pronounced, and another shorter, immediately succeeding, and less pronounced.

It is said to be incredible that the sounds of the fœtal heart can reach the ear through so great a mass, consisting of uterine tissues, vessels, and the limbs of the child. But the thickness of the uterus and abdominal walls is not great, and not to be compared in sound-deadening qualities to a common pillow. But who doubts that the ticking of a watch can be heard under a pillow? The writer has heard his own watch through the thickness of sixteen folds of blanket. There is, also, no real difficulty concerning the counting of so large a number of pulsations as 160 in a minute. The breathing of dying children may be distinguished at 180; the pulse at 240. The ticks of a lever watch are five to a second, and may most easily be counted at 240 per minute. When the piano is played rapidly, the ear can readily recognize 720 sounds in a minute.

There is no doubt that a woman may be pregnant of a living child, and yet that at times the fœtal heart-sounds not be discovered even by one accustomed to the search. Hence, the absence of the sounds can never be taken as a proof that the fœtus is dead, or that pregnancy does not exist.

Again, sounds may be feebly heard, so that the observer cannot say that they are not heart-sounds; or other sounds may be mistaken for those of the fœtal heart. If the sounds are not confined to a small circle, or are synchronous with those of the maternal heart, they should not be suspected to be fœtal.

Of all the signs which distinguish the enlarged uterus from other tumors, none are more valuable than the following: the uterus, like other hollow viscera, has a regular peristaltic motion, continuous throughout pregnancy, (and after delivery,) and consisting in periodic contractions, which cause a moderate but decided tension of the organ, and are followed by flaccidity and repose. No other tumor, not tympanitic, can do this; and, during the fits of contraction, the shape, dimensions, and outline of the organ are unmistakable. When about to auscultate, gently shampoo or roll the abdominal parietes over the womb, till it becomes hard and resisting. This is the moment for auscultation. Put the stethoscope on the womb, and perpendicular to its surface. Search carefully on the horizontal line on a level with the anterior-superior spine of the ilium; beginning on the left side, then a little above and below; if unsuccessful, go to the right side. Take care that the attitude is easy, and produces no rushing sound in the ears.—(*Medical Times and Gazette,* January 21, 1860.)

VII.—*The Mental Peculiarities and Disorders of Childhood.* By CHARLES WEST, M.D., etc.

No one can have watched the sick-bed of a child without being struck by the almost unvarying patience with which its illness is borne, and the extremity of the peril from which, apparently in consequence of that patience, a complete recovery takes place.

No sorrow, gloomy foreboding, remorse, disappointment, nor anxiety, depresses the spirits and weakens the vital powers. Death, in general, brings no alarm. To keep the child happy, remove all causes of alarm, suffering, and discomfort; modify the treatment so as to escape a struggle with waywardness, and if death appears imminent, look at it from a child's point of view; all these are duties of the utmost importance both for physician and parents.

The mind of the child is feebler than that of an adult, but is proportionally active, and vivid in its imaginations. The child who dreads solitude, and asserts that it hears sounds or sees objects, often tells a literal truth. The sounds have been heard; in the stillness of the nursery, the little one has listened to what seemed to be a voice calling it; or, in the dark, phantoms have risen before its eyes, and the agony of terror betrays an impression far too real to be explained away, or to be suitably met by hard words or unkind treatment.

Disorder of the cerebral functions greatly exaggerates these impressions. Hence, the circumstances surrounding a child, whether in health or disease, are of vast importance, and should never be lost sight of in the treatment.

The passions, too, of a child, are exaggerated as a general rule. Reason as yet does not govern its caprices. There is also an intense craving for sympathy, which sometimes becomes quite uncontrollable, and requires as much care and judicious management as in the case of an adult monomaniac. As in diseases of the body, so in affections of the mind in early life, the power of repair causes a constant hope, which is not to be indulged in the cases of adults. Dullness, apathy, and cerebral disturbance, have, therefore, not so grave an import as at a more advanced age. The whole of the intellectual energy is expended on the child's commerce with the world; his relations to it are disturbed, hence, the want of interest, the slowness to resume the lively prattle after sickness should not be viewed with too much apprehension. The memory of a child is feeble, and when recovery takes place, it has to learn again its old lessons, and with weakened faculties. This process will extend over a longer time in proportion as it was younger at the time of the illness.

One thing should be remembered, in protracted illness, even when unaccompanied with disorder of the brain—the sense of hearing may be impaired, and this may be one cause of the child's dullness. The arrest of development, or the positive retrocession of the mental faculties, is of far less import than any perversion of the moral powers. The child who, in spite of dullness, manifests the ordinary childish feelings, may be much improved by judicious training. We must also, in forming an estimate of these capabilities, consider the accompaniments of the sickness. Convulsions or serious cerebral disturbance will correspondingly impair more profoundly the intellectual powers, and retard the recovery. It must be remembered that a very large number of children whose progress has been arrested at an early age are allowed to grow up without any culture, and much of their dullness may be due to neglect. Apart from congenital instances, where mind and body are alike arrested in development, or are alike feeble and deformed, the state of the moral powers are more important as a guide to the prognosis than the condition of the intellectual. Want of affection, mischief, spite, causeless rage, are less hopeful than intellectual dullness, and the first step should be the establishment of moral control. It should be borne in mind that the heart may break or reason fail under causes seemingly insufficient, and the griefs of childhood may be as overwhelming as those of the strong man. The intellectual powers should never be overtasked. Thus may be laid the foundation of hydrocephalus, or the tubercular cachexia, the destruction of the nervous system or serious injury to the moral character.

Occasionally, children exaggerate their ailments, or feign those which have no existence, and they will put up with scanty fare and painful treatment as long as they can engross attention, and be the centre around which the household turns.—(*Med. Times and Gazette*, Feb. 11, 1860.)

VIII.—*On the Employment of Iodide of Potassium in Diseases of the Brain in Children.* By JOHN COLDSTREAM, M.D., F.R.C.P., Edin.

It is now upwards of twenty years since iodide of potassium was commended by Rœser and others, as a remedy of special power in hydrocephalus. It is surprising how few seem to recognize its value, and what slight references are made to its employment in the various works on the diseases of children. In all cases when, from the course of the symptoms, there is reason to believe that the central organs of the nervous system, or their envelopes, are in any degree affected with strumous inflammation, (tubercular cerebritis, or meningitis,) or its consequences, after moderate purgation, the writer is in the habit of employing the iodide of potassium in doses of from half a grain to three grains, every three or four hours, in some carminative water, and continuing it for many days, according to the symptoms, or until convalescence is fully established; and with the occasional use of blisters to the shaven scalp, he believes he has produced more prompt and decided effect upon the disease than by any other treatment. When the opportunity has been afforded of commencing the use of this remedy early, it has appeared to arrest the progress of the disease *rapidly*, so that the effects of effusion, indicated by squinting and convulsions, have not supervened. In less favorable circumstances, where considerable prostration had succeeded great febrile action, where starting and squinting had become prominent symptoms, in not a few instances, the free use of the iodide of potassium has been followed by amendment and complete recovery. In such cases it should be given in larger doses, even to four grains several times a day, to children of from four to eight years of age.

The medicine is very seldom refused by the patient, nor does it increase the nausea so frequently existing in the earlier stages of the disease; nor has it induced salivation, which seems sometimes to follow its use in other ailments. Although it is more especially useful where there exists more or less of the scrofulous diathesis, yet it has been found of service in cases where no taint was present.

The writer is not prepared to assert that this agent is more useful than calomel in *all* cases of inflammation of the brain and its appendages. When we have to treat robust and full-blooded children, in whom there is reason to believe that the threatened disease of the nervous system stands more or less directly connected with preceding disorder of the digestive organs, there is no doubt of the superior efficacy of the mercurial treatment, combined with antimonials and salines; but when, after having duly administered these remedies, symptoms of cerebral disorder continue, the iodide should then be employed. The writer, in concluding, is satisfied that the iodide of potassium never produces any bad effects, though it may fail to do good.—(*Edinburgh Med. Jour.*, Dec. 1859.)

PHYSIOLOGY.

BY S. WEIR MITCHELL, M.D.,

LECTURER ON PHYSIOLOGY IN THE PHILA. MED. ASSOCIATION.

I.—*Remarks on a Critique of Dr. Brinton's on my Memoir on a little-known Function of the Pancreas.* By LUCIEN CORVISART, M.D., Paris.*

Dr. Brinton has done me the honor to submit to the test of his own experiments† my researches‡ on the pancreas, or rather some points in these researches. Dr. Brinton's work would have had more weight, if the author had not shrunk from repeating the vivisections from which I have derived so much information;

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* Translated for M. Corvisart, from his manuscript, by William Daniel Moore, M.B., M.R.I.A.

† See the number of this journal for August, 1859.

‡ Sur une fonction peu connue du Pancréas, etc., par Lucien Corvisart. Paris, Victor Masson. 8vo., pp. 123.

and above all, if before undertaking or recording his researches, he had been more fully acquainted with the medical literature of the subject. In fact, at the period at which Dr. Brinton published his observations, Professor Meissner* had, under the title of "Investigations as to the Digestion of Albuminous Bodies,"† completely confirmed the fact of the energetic digestive action of the pancreas on albuminous aliments, which it would have been well to have repeated. Moreover, I had pointed out, in a short notice,‡ the gross error which had misled MM. Keferstein and Halwachs. It is well known that Montègre, in studying the gastric secretion, *always sought in vain* for the gastric juice, because he always sought it in the fasting state, and that by this obstinate course he was led to deny the existence of the gastric juice, which nevertheless thrust itself forward before the eyes of all. MM. Keferstein and Halwachs, my opponents, falling into an error of the same kind, had rendered themselves powerless, and had, so to speak, concealed from themselves the action of the pancreas, by forgetting that it is not during fasting and repose that the gland must be taken, to find it in its ferment and its activity, but during the very act of digestion, (five or six hours after a meal in the dog.) But if I thus dwell upon publications anterior to that of Dr. Brinton, it is because he, as well as Montègre and MM. Keferstein and Halwachs, has, without knowing it, very evidently divested most of his observations of any force. I had taken some pains to spare experimenters the annoyance of the troublesome groping through which I had to pass, and to enable them to avoid negative or doubtful facts, like those of Dr. Brinton. "It is necessary," I said,§ "in preparing an infusion of the pancreas for the purposes of study, to avoid *crushing* the gland, or agitating it too frequently in the water, or protracting the infusion beyond the period when the fluid becomes clouded." I had even taken care to point out this state as an indication for rejecting beforehand infusions, which might have attained to opalescence, as inert, and unfit for the search after positive results. "Commonly," I added, "an infusion which is long filtering and is cloudy, has partly lost its efficacy. * * * * The turbidity shows that the pancreatic juice is beginning to act upon the fatty matters in the gland itself; at a later period it will have begun to act upon the azotized substance, since, like the gastric juice, the pancreatic fluid exhausts itself by agitation.‖ Taken in this state, the infusion of the pancreas would no longer exhibit to the experimenter any digestive action.¶ Now these very unfavorable

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[*] Zeitschrift für Rat. Med., 1859, dritte Reihe, Band viii.

[†] Untersuchungen über die Verdanung der Euiveisskörper.

[‡] The Lancet, June 18, 1859, and Union Médicale, 23 July, 1859.

[§] Lancet, June 18, 1859, page 607.

[‖] Lancet, loc. cit.

[¶] Facts are no doubt to be found in Canstatt for this year, due to Professors V. and S., which are completely confirmatory of another action described by me (Lancet, loc. cit.,) and which will much surprise physiologists: when the pancreas is taken from a dog five hours after a meal, the juice contained in it is so energetic, that if the infusion of the gland be a little too prolonged, if the latter have been cut up in very small pieces, and, above all, if it be too often and violently agitated, the temperature being maintained at 104° F., the gland in part disappears, dissolved and digested in its own juice, which has escaped from the channels where normally it is confined during life.

conditions, which I have pointed out in order that they might be avoided, Dr. Brinton has selected and observed; and, what is more, he congratulates himself on having done so!

"The method I generally adopt is to mince a given weight of pancreas very finely, before pounding it to a pulp in a porcelain mortar. Twice or thrice as much distilled water is then gradually added to and rubbed down with the pulpy mass; the whole is then filtered, so as to yield an opalescent (almost milky-looking) fluid."[?] "This process is in many respects superior to that of Corvisart (Brinton.) Thus we see the application of the adage, 'le mieux est quelquefois l'ennemi du bien.'" The process followed by Dr. Brinton, and which, before him I had pointed out, not as a process, but as a mischance, is therefore fit only to show that it is possible in an instant, either in an entire pancreas or in half a pancreas, to exhaust all digestive power on the albuminoids by *pounding it;* which complete or partial exhaustion is recognized even before the digestive experiment, by the fact that the liquid is milky and filters persistently turbid—facts which I had expressly stated, as has been seen. The precaution I adopted of taking the pancreas immediately after the expiration of the fifth hour after a meal, of avoiding, before and after death, bruising or pounding the gland or protracting the infusion beyond a period easily determined by observation, had led me to the discovery of facts invariably as similar as physiological facts usually are. It will be observed that Dr. Brinton's unfortunate deviation from this mode has led him on the contrary to fluctuate incessantly between my views and those of my opponents. At one time Dr. Brinton writes: "sometimes we may see no solution at all;" at another he declares that a "rapid, energetic solution occasionally occurs." In one place he writes: "the solution is accompanied with unmistakable putrefaction;" in another, on the contrary, he says, "that an energetic solution is often seen to occur when as yet none but a peculiar, penetrating, quasi-syrupy odor is discernible." Now he declares, with me, that the solution is "rapid;" again he considers it to be "slow." Such are the uncertainties Dr. Brinton would have been spared, if he had been acquainted with the publications which have preceded his experiments. Dr. Brinton seems, moreover, in the second place, to have made the same mistake as MM. Keferstein and Halwachs, in not choosing for his experiments the pancreas taken the fifth hour after a meal. Lastly, I may in the third place add, that although Dr. Brinton appears to trace a certain connection between putrefaction and digestion, all the observations he has made, and in which some putrefactive odor, however slight, was developed, will never be considered by me—nor, I think, by any physiologist—as cases of digestion. I would particularly reject the experiment where, having proved the digestive inefficacy of the pancreas, he allows the fluid to putrefy during five whole days, then places it in contact with albumen, and pronounces that there was subsequent solution, and that the digestive power was increased by the putrefaction. The experimenter should always stop before there is any odor or possibility of putrefaction.* In this latter fact I see only two things:—

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* The pancreas is one of the organs most liable to putrefaction, and this is an additional reason for vigilance in making experiments on the digestive action of its

1. In the first instance, the pancreas, taken doubtless in the fasting state, (nothing is specified on this capital point,) is inert.

2. It was allowed to putrefy, and then communicated its putrescent liquefaction to the surrounding matters.

To recapitulate:—

1. Let Dr. Brinton never protract his experiments on artificial digestion beyond the period when the odor is the odor sui generis of the pancreas taken at the very moment of killing the animal.

2. When he meets with an inert pancreas, let him not seek in putrefaction an aid to solution.

3. Let him never crush the pancreas.

4. Let him reject beforehand as inert any infusion which passes through the filter turbid and lactescent.

5. Let him never take a pancreas except at the time I have thought it right to indicate.

6. Let him prefer the pancreas of a carnivorous animal, like the dog, when the periods of digestion are well marked.

7. Let him repeat the vivisections, which he has very gratuitously refused to do, and without referring to the confirmatory experiments of Professor Meissner, or those witnessed by MM. Kühn, Snellen, Professors Moris, Schiff, etc. I have more than a hope that, disengaged from a false starting-point, the experiments instituted by Dr. Brinton's able and methodical intellect will quickly and decidedly convince him as to the point in my memoir which has appeared to him interesting. Moreover, I earnestly invite experimental criticism of others; whether they be regarded with favor or disfavor, they are closely connected with the physiology of digestion, and from the courteous collision of opinions, however evoked, the truth will be elicited.—(*The Dublin Quarterly Journal of Medical Sciences*, February, 1860.)

II.—*Notes on some Experiments on the Cervical part of the Sympathetic Nerve of a Beheaded Woman.* By Professor RUDOLPH WAGNER.

"This morning at half-past nine o'clock a woman twenty-eight years old was beheaded, at a short distance from our town, and I made some experiments upon her head, which confirm and complete a number of experiments of the same character made last summer, and referred to in the first series of my researches upon the functions of the brain. The principal object of these researches was to determine the function of the smooth muscular fibres recently discovered by Dr. Müller of Wurzburgh."

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juice or of its infusion. At the temperature of 104° F., the digestion of fibrin is usually accomplished without putrefaction in the third hour; that of albumen in the eighth, if the pancreas has been taken out and the infusion made within the preceding four hours. One hour's infusion at 104° F. suffices to remove from the gland all its juice. If the pancreas and its infusion be older, or if the digestion be more protracted, the experimenter is at fault, and allows the almost fatal supervention of putrefaction.

Any infusion of the pancreas which requires more than an hour's digestion at 104° F., ought to be considered as inert.

After describing certain circumstances which interfered somewhat with the examination, Professor Wagner goes on to say:—

"The decapitation took place at thirty-two minutes after nine o'clock, and eighteen minutes afterwards, namely, at fifty minutes after nine o'clock, the head was put upon the dissecting table. The head had been carried to the laboratory wrapped in a warm cloth.* The knife had cut the sixth cervical vertebra, and the division of the two great sympathetic nerves had occurred about an inch and a quarter below the swelling of the superior cervical ganglion. The temperature of the interior of the buccal cavity was at 99° 32 Fahr. The inferior portions of the neck were still warm. The palpebral opening was about five millimetres; the pupils were of middling size, (about five millimetres in diameter.) The axes of the eyes were horizontal and parallel to one another.

To produce the excitation I had prepared two electro-magnetic rotatory apparatuses, on account of the ease with which they can be carried and used. The sympathetic nerves when prepared were put in contact with the platinum needles of the reophore, in accordance with the rules of Dubois-Reymond.

The eyelids having been closed by gentle pressure, electrical stimulus was applied to the cervical portion of the right sympathetic. The eyelids opened slowly about three or four seconds after the apparatus was put in action. There was especially a marked lifting of the upper eyelid. The vertical diameter of the palpebral opening reached to about eight millimetres, but later decreased to six millimetres. Between the eyelids the lower half of the cornea was visible, behind which the pupils could be seen to dilate. When the electrical stimulus was very strong, the dilatation of the pupils became so great that the iris was hardly from one and a half to two millimetres in size.

The same experiment produced like results upon the other eye, and indeed the experiment was repeated six times upon one side until twenty-five minutes had elapsed since the beginning of the experiment, and consequently three-quarters of an hour after decapitation. It was even possible to attain to like success when the ends of the sympathetic, separated from the surrounding tissues, were almost cold. The eyelids then opened more slowly; about six seconds elapsed between the beginning of the action of the apparatus and the movement of the eyelids, which, in order to insure success, we were obliged to close entirely before attempting the experiment.

After it became impossible to succeed any longer by applying the conductors near the cut end of the nerve, a small opening was obtained, after about thirty minutes, by applying the conductors to the ganglion itself, then exposed for the first time. The iris continued irritable some time longer. The dilators of the pupil were still irritable at the seventh experiment on the same side and obeyed the stimulus of the great sympathetic at the thirtieth minute. They would have responded still later had not the head been taken away by Henle for the purpose of experiment.

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* It is remarkable that the eminent physiologist, to whom we owe this labor, should still remain in ignorance of the law, that the lower the temperature of the nervous and muscular tissues, the longer they retain their vital properties. According to this law, Wagner could have done nothing more injurious than to prevent the cooling of the head upon which he was about to experiment.

No change in the curvature of the cornea was noticed, nor even any of that lifting of the ocular globe so plainly observable in experiments on animals. (See *Neurologische Untersuchungen*, p. 132.) In the dog I could estimate this rising up of the globe as equal to at least from two to four millimetres.

There remains no doubt that in these experiments the opening of the eyelids does not depend on the elevator of the superior eyelid as has been recently asserted, since the movement has really all the characters which belong to the action of smooth muscular fibres in accordance with the laws enunciated by Edmund Weber; thus a perceptible interval elapses between the beginning of the excitation and the contraction, its visible effect; and this contraction, moreover, persists, after this excitation has ceased. When the extremities of the reophores were carried deeply into the muscles of the neck, and excited at one and the same time, branches of the hypo-glossal nerves, the facial and the fourth pair, there were produced tremulous movements in the muscles of the chin, the mouth, the nostrils, and of the jaws, as well as in the orbicularis muscle of the eyelids.

The well-known twitching of the muscles thus produced by galvanism differed totally from the slow movement of the eyelid caused through the agency of the great sympathetic.—(*Journal de Phys.*, January, 1860 ; from *Zeitschrift für Rationelle Medizin*, dritte R. Band v., 1859.)

III.—*On the Existence of Certain Smooth Muscular Fibres in the Orbit of Man and Mammals.* By H. MULLER.

1. The inferior orbital fissure in man contains a mass of reddish-gray color, composed of hundreds of smooth muscular fibres, the most of which are provided with elastic tendons.

2. In mammals a more strongly developed muscle is found; as the analogue which we have just described, it forms a skin muscle—the orbital muscle of some writers, and is equally composed of smooth muscular fibres.

3. The nictitating muscle is partly composed of smooth muscle and partly of tractile fibres transversely striated, acting from in front backward.

4. The orbital muscle is provided with bundles of nerves which contain scarcely any fine fibres, such as characterize the sympathetic system. These nerves are partly derived from the spheno-palatine ganglion.

5. The orbital muscle is the agent in producing that forward movement of the ball of the eye, observed in animals during excitation of the cervical sympathetic; it serves to antagonize those muscles which draw or push the eye toward the bottom of the orbit.—(*Journal de la Physiologie*, January, 1860 ; *Trad. de Zeitschrift für Wissenschaftliche Zoologie*, Band x., Haft 4, 1858.)

IV.—*Existence of Urea in the Fluids of the Thoracic Duct.* By M. WURTZ.

M. Wurtz has discovered that urea is one of the principal constituents of the fluids of the thoracic duct. Guided by the idea that urea is probably formed not in the capillaries but in the extra-vascular tissues themselves, the author sought for this substance in the chyle and the lymph.

In a dog nourished with meat, one thousand grammes of blood yielded 0·089 of urea; and the same quantity of lymph, 0·158 of urea.

In a cow the same amounts of blood, of chyle, and of lymph, gave respectively 0·192, 0·192, 0·193, as the amount of urea present.

The blood and chyle of a ram, contained in each one thousand grammes, respectively, 0·248 and 0·280 of urea.—(*Comptes Rendus de l'Acad.*, July 4, p. 52.)

MATERIA MEDICA AND THERAPEUTICS; MEDICAL CHEMISTRY; TOXICOLOGY AND LEGAL MEDICINE.

BY EMIL FISCHER, M.D.

MATERIA MEDICA AND THERAPEUTICS.

I.—*Medicinal Properties of Globularia Alypum, L.* By DR. G. PLANCHON, of Montpellier.

The purgative properties of the leaves of this plant have lately been brought before the medical profession by Dr. Gustave Planchon, of Montpellier.

Dr. Planchon, in an essay entitled *Des Globulaires au point de vue Botanique et Médical*, Montpellier, 1859, discusses, in the first place, the botanical affinities of the genus *Globularia*, which, after careful revision, he concurs with Dr. Lindley in placing in the natural order *Selaginaceæ.* The second part of his pamphlet relates entirely to one species of *Globularia*, namely, *G. Alypum, L.*, a small shrub of the South of Europe, well known to the botanists and physicians of the sixteenth and seventeenth centuries, who generally regarded it as a drastic purgative. Dr. Planchon shows that these ideas of the powerfully cathartic properties of the *Globularia* are very much exaggerated, and that in fact its leaves are a safe, mild, and efficient purgative. The form in which the medicine is best exhibited is a decoction, made by boiling an ounce of the leaves in water for ten minutes. This quantity constitutes one dose. Dr. Planchon has arranged his observations on twenty-two cases in a tabular form, from which we gather that the decoction administered in the dose named, usually acts in about two hours, producing on an average four evacuations. Neither vomiting nor nausea is felt after a dose, nor does its action produce griping. In fact, it purges very gently, without occasioning any unpleasant symptoms. Another advantage which it possesses, and which Dr. Planchon very justly points out as remarkable, is that of not occasioning any subsequent constipation—a fact noticed in every case recorded. It may be employed, says he, in all cases in which a purgative effect is required without irritation of the intestinal canal. In its bitter properties it approaches that class of purgatives which, taken in small doses, exercise on the digestive organs a simply tonic action. It fulfills the same indications as rhubarb, but with the advantage of purging more mildly and of not producing the ulterior constipation, which is one of the commonest inconveniences of that medicine.—(*Pharmaceutical Journal and Transactions*, London, February, 1860.)

II.—*Pharmaceutical Notes on the Cornelian Cherry.* By DR. X. LANDERER.

The *Cornus mascula* grows plentifully in the gardens of Greece, where it is also indigenous.

Its fruit, called *krania*, is greatly prized by the Turks on account of its very agreeable acid flavor. They use the juice of it in different ices and sweatmeats, also to prepare their sherbets or *bosas*, which are very refreshing and very wholesome acidulated but sweet drinks. The fruit is also considered very styptic; and hence during the prevalence of cholera, it is the only fruit allowed to be sold in the streets and bazaars.

The syrup of *krania* is employed in Greece as that of the raspberry or blackberry is in Central Europe. Before the fruit ripens, it is put into vinegar, to preserve it all the year round, and in this state it is eaten like olives, mad-apples, and tomatoes.

This plant was well known to the ancients. Homer tells how the famous poisoner Circe gave its fruits to the companions of Ulysses to put them to sleep. Pliny relates that the fruit of this tree is useful against diarrhœa.

In the East they make use of the flowers also in cases of diarrhœa and hemorrhages, and the poor collect the kernels to make ornaments.—(*Dublin Hospital Gazette*, and *Pharmaceutical Journal and Transactions*, February, 1860.)

III.—*On the External Use of Cyanide of Potassium in Neuralgia, with Researches on its Physiological Action.* By M. TH. ROCHE, of Besançon. (Bullet. de la Soc. Méd. de Besançon, No. 8, p. 3, Besançon, 1859.)

The solution of two to three decigrammes of cyanide of potassium in thirty grammes of water cures neuralgia, if it is *superficial and localized.* This is the conclusion at which the author of this excellent essay arrives, and which he founds upon the observation of eleven cases, five of which only he reports in detail. In these eleven cases, which include ten of cephalic neuralgia and one of pleurodynia, nine cures were obtained, seven times by the simple and sole application of the topical remedy, and twice by associating it with the internal use of preparations of belladonna. In the two unsuccessful cases the treatment consisted of the external application of the cyanide and the internal administration of the narcotic solanaceæ. On comparing his own experiments with those of Professor Trousseau, the author arrives at the conclusion that the solution of cyanide of potassium, applied locally, does neither act by refrigeration, nor by rubefaction, vesication, or pulmonary absorption of the cyanic vapors, but by cutaneous absorption of the salt in the state of cyanide or free hydrocyanic acid. If this conclusion, deduced from therapeutical and physiological actions, cannot be supported by chemical demonstration, the reason must be looked for: (1) In the fugacity of the cyanic principles, particularly if they are in small quantity, and elaborated by their introduction into an organic apparatus; and (2) in the impossibility of experimenting on man with quantities sufficiently large to prove chemically the presence of a notable quantity of the absorbed principle.—(*Echo Médical Suisse*, and *Journal de Médecine de Bordeaux*, February, 1860.)

IV.—*On the Iodide of the Chloride of Mercury in the Treatment of Skin Diseases, and especially of Couperose and Acne.* By M. AL. DEVERGIE.

This preparation, which possesses very powerful properties, was introduced by M. Boutigny, about fifteen years ago, for the treatment of couperose, acne, and other skin diseases which are very obstinate, and often irremediable by ordinary means. In these cases, it is looked upon by many as a specific; but its chemical composition and therapeutical effects have not been studied with sufficient accuracy. The action of iodine on protochloride of mercury was first investigated by Planche and Soubeiran, (*Journal de Pharmacie*, t. xii. p. 651;) the product which they obtained presenting powerful escharotic properties. By varying the proportions of iodine and of protochloride, however, different compounds may be formed; and chemists have now ascertained that the so-called iodide of the chloride of mercury is not a definite chemical substance, but is a mixture of the chlorides and iodides of mercury, and generally consists of the bichloride and biniodide of mercury along with the protochloride. Such appears to be the composition of the substance manufactured by M. Boutigny, who, however, keeps his process secret. M. Devergie recommends the process of M. Dannecy, as yielding a product similar to that of M. Boutigny. Equal equivalents of iodine and bichloride of mercury are employed, dissolved in alcohol, which retains a great part of the bichloride in solution, and the salt which separates (iodide of the chloride) in this case consists of a large proportion of biniodide, and a very small quantity of the bichloride, mixed with an excess of calomel. Prepared in this way, the iodide of the chloride, like that furnished by M. Boutigny, is much less violent in its action than either the biniodide or the bichloride alone would be in the same dose.

M. Boutigny employs his preparations externally in the form of an ointment, internally in the form of pills or syrup. The formula of the pommade de Boutigny is: Axunge, ℥j; iodide of the chloride of mercury, 12 grains—but more recently he has increased the proportion of the iodide of the chloride to 16 grains, and the ointment, of this strength, is now usually employed. The pills contain about one-fifth grain in four pills.

When applied to the skin, this ointment usually produces, after the second or third application, a feeling of heat and smarting, which lasts during most of the night if the pommade is used in the evening. Next day, if the pain has not been severe, the skin is merely reddened; but if the irritant action has been fully developed, the red surface is covered by an immense number of minute serous vesicles, which quickly dry up, leaving an epidermic crust. In most cases, the inflammation which is excited subsides rapidly, so that the application of lard or cold cream, for four or five days, allows the skin to return to its natural condition. Such are the usual results; but the effects, of course, vary with the strength of the preparation and the degree of sensibility of the skin—circumstances which must be attended to in the treatment of different cases. M. Devergie's mode of application is to spread the pommade, in very thin layers, uniformly over the skin, by means of gentle inunction with the point of the finger, for about one minute; this is repeated every twenty-four hours for two, three, rarely four days, and then stopped; the inflamed surface is next covered with lard or starch powder for three or four days, till the excited action subsides, and the application of the ointment is then renewed as before. This treatment is continued for five, six, or eight months, or even one or two years in case of relapse. It is the general opinion, that to obtain a complete cure, the application must be repeated till the strong ointment, containing sixteen grains of the iodide of the chloride, ceases to exert any action on the skin; but M. Devergie considers the cure established when the skin is clear of eruption, and the ointment produces only a third or a fourth of its previous effects. It is especially in couperose, a disease always difficult, and sometimes impossible, to remedy by ordinary means, that the iodochloride ointment exhibits the most remarkable effects. When the disease has not reached the tuberculated stage, it frequently cures it without requiring so long as six or eight months of treatment. M. Devergie relates a striking example of this in the case of an actor, who, in consequence of intemperance, had his face so blotched and disfigured that even with the assistance of paint he could not venture to appear upon the stage, and had to give up his engagements. In a few months he was completely cured. Although the cases are not always so satisfactory, M. Devergie strongly recommends the use of the iodide of the chloride in pommade as generally a very successful means for the treatment of couperose. In acne, generally, it does not always suit. It succeeds least in A. sebacea and punctata; A. indurata yields most easily, and next to it A. miliaris. The acne rosacea does not usually require this treatment at all. In all these forms of acne, sulphureous baths and other measures are requisite. In mentagra and chronic lichen, it is not more successful than other analogous remedies; in lupus and eczema it does not appear to do any good. With regard to the mode of action of the iodide of the chloride, M. Devergie holds very decided views. He denies entirely its specific action, and maintains that it cures by its topical effects only, and not by any influence on the constitution. He strongly disapproves, therefore, of the internal use of the remedy as quite unnecessary, and as likely to give rise to salivation, and to injure the general health. According to his view, the cure is effected locally, by a process of substitution. The iodide of the chloride, being a powerful irritant, induces an acute inflammatory condition, which takes the place of, and, as it were, substitutes itself for, the chronic subinflammatory action of the disease; and by changing the mode of vitality of the tissue, promotes a return to the healthy state. The application of blisters in chronic inflammations of the skin is a common example of the same principle of treatment. Whatever may be the value of this theory, the general view is important, that it is merely in virtue of its stimulant or irritant properties, exerted locally, and not by any specific action, that the cure is accomplished. Finally, M. Devergie expresses the wish that in pharmacy some uniform method should be adopted of preparing the iodide of the chloride of mercury, so that it may be procured always of the same strength, and may be introduced into the therapeutics of legitimate medicine.—(*Bull. Gen. de Thérap.; Edinburgh Medical Journal*, December, 1859.)

V.—*On Chlorine Lotions in Variola.* By DR. EISENMANN.

Several young persons having died asphyxiated at Würzburg, in consequence of the development of pustules of variola or varioloid in the larynx, Dr. Eisenmann was induced to seek for a means which would limit the eruption to the skin, and prevent its propagation to the mucous membranes.

Most of the acute exanthemata take their origin in a mucous membrane, as scarlatina in that of the throat, and rubeola in that of the respiratory organs and eyes; and as long as it remains localized in the mucous membrane, and is moderate, the affection of the internal organs is not dangerous. But when the course of the subsequent eruption on the skin becomes impeded, or, that when it appears it is in such intensity or abundance that the economy does not possess sufficient energy to meet the assault, the primary affection of the mucous membrane may then so increase as to give rise to dangerous lesions. The indications which we should have in view are to favor the eruption of the exanthem, and prevent the skin becoming excessively overcharged with it. The asphyxia above alluded to took place when the eruption had undergone a vivid development, and had given rise to abundant pustules; and our object in such case should be to moderate the reflex action of the exanthem on the economy. The means of doing this, the author believes, will be found in applying over the whole surface, three or four times a day, weak, tepid, chlorined water, in imitation of a practice successfully pursued by M. Schönlein in scarlatina. He has now tried the plan during various epidemics, and has been able to confirm his own experience by that of others. The general conclusions are as follows:—

1. That chlorine lotions employed at the period of eruption present the following advantages: (1) They favor the development of the eruption, and thus mitigate febrile action. (2) The pustules are not too abundant, and do not become confluent. (3) There is no subsidence or repercussion of the pustules observed, nor any variolous affection of the mucous membrane or of an internal organ. (4) The patients suffer little during the height of the exanthem, preserve their appetite, and sleep well. (5) The course of the exanthem is very rapid, and there is neither suppuration, with its consecutive fever, or tumefaction, salivation, etc. (6) Scabs do not arise, only thin pellicles forming, which soon fall, without leaving any mark or cicatrix. (7) No consecutive affections are observed.

2. When resorted to only after the eruption has taken place, the lotions produce the following effects: (1) They diminish or disperse the inflammatory condition, and accelerate the course of the exanthem. (2) They prevent its repercussion and the propagation of the variolous affection to the mucous membranes and internal organs. (3) In cases in which the mucous membranes have already become affected, the lotions exert a derivative action; and if together with them gargarisms, chlorine inhalations, and chlorined water internally are had recourse to, the intensity of these complications is much diminished, so that recovery takes place in cases in which life seemed to have been in great danger. (4) Employed in good time, the lotions, even when the eruption has become developed, may yet prevent suppuration. If, however, this has taken place, it may still be moderated; and we find neither irritation of the skin, nor intoxication of the blood from absorption of pus, and consequently no general reaction. (5) Thin scabs only are formed, which soon fall off, leaving but temporary red marks. (6) No consecutive diseases arise.

This means is beyond comparison superior to the variety of ectrotic applications having for their object the prevention of pitting, for these, when they can be borne, at most confer this local advantage without diminishing the severity of the disease. It is true that applications of corrosive sublimate or tincture of iodine exert a somewhat similar action on the variola to chlorine; but no one would risk making repeated and general applications of the former; while the sudden arrest of the morbid process over a large surface by means of iodine, which also interrupts the functional action of the integument, would often prove anything but a safe procedure.—(*Bull. de Thérap.*, t. lvi. pp. 232–240, and *Med. Times and Gazette*, Feb. 11, 1860.)

VI.—*Pills of Carbonate of Ammonia in Chronic Bronchitis.* By DR. JOHN WILLIAMS, of Cork.

Dr. Williams recommends the following formula for administering carbonate of ammonia in pills, which, he says, are of great service in chronic bronchitis, and especially in those cases where the bronchial secretion is viscid and expectorated with difficulty:—

℞.—Ammoniaci, gr. ij;
    Pulv. Ipecac. gr. $\frac{1}{2}$;
    Morphiæ Mur. gr. $\frac{1}{6}$;
    Ammoniæ Carb. gr. ij;
    Mucilaginis Acaciæ, q. s.
Misce. Fiat pilula.

The pills should be at once coated with a varnish of balsam of Tolu, dissolved in chloroform, and they should afterwards be kept in a bottle.—(*Pharmaceutical Journal*, London, February, 1860.)

VII.—*Pencils of Tannin in Affections of the Uterus.* By DR. BECQUEREL.

This form of application, pointed out by Dr. Becquerel, seems likely to be of service in the treatment of lesions affecting the cavities of the neck and body of the uterus. In particular, in the fungous conditions of their mucous membranes, with consecutive hemorrhages, the tannin pencils might be advantageously substituted for the intra-uterine injections, which are not always free from danger. Dr. Becquerel's formula is: ℞.—Tannin, 4 parts; gum tragacanth, 1 part; bread-crumb, q. s. to give the proper consistence. These pencils are five millimetres in diameter, and three centimetres long. To use them, the neck of the uterus is exposed by means of the speculum; a pencil of tannin is introduced with the forceps into the os tincæ, and is then pushed into the uterine cavity, and secured there by a plug of lint soaked with concentrated solution of tannin. Once in position, the pencil softens and dissolves, and modifies the tissues with which it is in contact. At the end of twelve hours, the plug of lint is withdrawn by means of a thread attached to it. Every three or four days a new pencil is introduced in the same manner; and after a month of this treatment, the fungous state of the mucous membrane progressively disappears, and the hemorrhages are arrested.—(*Bull. Gén. de Therap.*, and *Edinburgh Medical Journal*, January, 1860.)

VIII.—*Treatment of Burns by the Local Application of Distilled Cherry-Laurel Water.* By DR. E. FRANCHINO.

The use of cherry-laurel water in local applications is not a novelty; it has been employed in the treatment of erysipelas, neuralgia, ulcers, certain kinds of ophthalmia, (as collyrium,) hemorrhoides, rheumatic pains, etc. M. Franchino has used it in three cases of burns of the second, third, and fourth degree of Dupuytren, which it has cured with great promptness. Among other advantages, cherry-laurel water possesses that of suppressing the pain almost completely, of calming the agitation, the heat, etc. M. Franchino mixes it, in proportion of eight parts to a hundred, with solution of gum arabic, and applies compresses, soaked in this mixture, upon the burnt surface after having it previously cleaned, and having pierced the phlyctenæ. In order to renew the dressing the compresses must be softened, before their removal, by covering them with other compresses soaked in water.—(*Gazetta Medica Italiana, Stati Sardi*, No. 37, and *Gazette Hebdomadaire*, February 24th, 1860.)

IX.—*Treatment of Excessive Perspiration of the Feet.* By M. GAFFARD.

It is well known that excessive perspiration of the feet may be a very troublesome complaint. It not unfrequently produces excoriation between the toes, giving rise to an exudation of a disgustingly fetid odor; and it sometimes occasions ulcerations, which render locomotion very painful, or altogether impossible, forcing the persons affected to interrupt their business occupations. M. Gaffard, of Aurillac, recommends the following means, which he says he has employed in such cases with complete effect. The treatment consists in pouring between the toes a few drops of a liquid, composed of one gramme (fifteen grains) of red oxide of lead, and twenty-nine grammes (about an ounce) of the solution of subacetate of lead, (of the French Pharmacopœia;) the sesquioxide of lead is pounded in a mortar of porcelain till it is finely divided; the subacetate is added gradually; and the whole is put in a bottle, which is shaken each time it is used. This application made every eight days is sufficient, in most cases, according to M. Gaffard, to cure the affection, and prevent its return. The liquid, without completely stopping the perspiration, moderates its amount, and regularizes the action of the morbid surfaces. The perspiration becomes inodorous, the skin regains its original thickness at the excoriated parts without losing its pliancy, and the parts return to the natural condition of cleanliness and health.—(*Rép. de Pharmacie*, and *Edinburgh Medical Journal*, January, 1860.)

X.—*Treatment of Ascarides.* By M. HERVIEUX.

M. Hervieux, after relating an interesting case in which the irritation produced by ascarides in an adult was long mistaken for severe rectitis, communicates the results of his experience in the treatment of this troublesome affection in children. In the first place, of all purgatives castor-oil is the best; and this statement is made after a full trial of salines, calomel, scammony, jalap, etc. The oil always gives rise to a greater or less evacuation of the worms, giving the patient a truce of some months. It is true that it is only a palliative. But where is an agent for a radical cure to be found? Mercurial ointment, passed in upon the finger, is of no durable efficacy; and the daily injection of cold water does not destroy the disease, but acts only as a palliative. Still, this last is the best means to adopt when castor-oil cannot be taken. Injections of olive oil, of sulphuret of potassium, of lime-water, or of corrosive sublimate, which have been prescribed by practitioners in cases which have since come under M. Hervieux's notice, have never led to a definite cure. Time seems, indeed, to be the sole agent capable of completely destroying these helmintha; and M. Hervieux has met with numerous individuals who during childhood had suffered much from ascarides, and who, having reached the adult age, no longer gave any signs of them. In a few instances, however, the worms are still met with at an advanced period of life. The female worm is distinguished from the male, among other marks, by being nearly twice as long, and in the numerous cases in which he has searched for her, M. Hervieux has never yet been able to detect any females amid thousands of worms.—(*Bull. de Thérap.*, t. lvi., and *Medical Times and Gazette*, February 11, 1860.)

XI.—*Infusion of Coffee in Strangulated Hernia.* By M. RONZIER JOLY.

M. Ronzier Joly, of Clermont, relates two additional cases in proof of the utility of the practice, imported from Havana, of administering repeated doses of strong coffee in the case of strangulated hernia. In both these cases of inguinal hernia the success of the coffee does not seem to have been at all doubtful, although the association with it of frictions of belladonna made over the hernial tumor may have aided in producing the favorable result. In both cases, however, an after consequence was met with, which had not occurred to the author before, although he lives in a district in which hernia is of very frequent occurrence. This consisted in a true hemorrhagic or dysenteric flux, for the relief of which large doses of bismuth proved of great utility. The production of this flux he attributes to the coffee, indicating that some caution is required in its administration.—(*Ibid.*)

XII.—*Muriate of Ammonia in Nervous Cephalalgia.* By PROF. BARALLIER.

Professor Barallier, of Toulon, reports that within the last three years he has administered this substance in 259 cases of nervous cephalalgia, and with success in 202 of these. He gives forty-five grains, combined with mint-water and syrup of orange-peel, divided into three doses, to be taken at intervals of half an hour, amendment commencing after the first dose, and the third frequently not requiring to be taken. To prove effectual, however, the remedy should not be given at the very commencement of a paroxysm, but when it has acquired great intensity. This agent not only gives relief to the urgent pain of the paroxysms, but, after having been had recourse to on several occasions, diminishes the number and frequency of these. To be of use, it must not be indiscriminately used for every cephalalgia; and the result of the analysis of M. Barallier's experience leads to the following conclusions: 1. The muriate almost constantly dissipates paroxysms of idiopathic migraine, and of migraine consecutive to too abundant menstruation. 2. It is powerless in the hemicrania which is dependent upon irregularity or suppression of the menses. 3. It is tolerably successful in cranial pains dependent upon disorder of the stomach, and in the accidental cephalalgia frequent in women and feeble persons under the influence of sudden changes of the atmosphere, prolonged intellectual labor, or moral emotion. 4. It operates beneficially in cephalalgias consecutive to repeated paroxysms of intermittent fever; those which are observed during the decline of severe fever, and in the course of the irritative period of typhus.—(*Ibid.*)

XIII.—*A New Method of Preparing and Applying Chloride of Zinc.* By G. W. SPENCE, M.D.

Dissolve fifty grains of prepared chalk in two drachms (by measure) of commercial muriatic acid; dissolve a hundred and fifty grains of sulphate of zinc in two fluidrachms of boiling water. When required for use, mix the two solutions, and the result will be a paste weighing nearly an ounce, and containing about one-sixth of pure chloride of zinc. The proportions are nearly, but not exactly, those indicated by the atomic weights. A little study would easily produce a paste of harder or softer consistence.—(*Lancet*, and *British Am. Jour.*, February, 1860.)

XIV.—*Natural History, Properties, and Medical Uses of the Sanguinaria Canadensis.* By DR. GIBB. (Read before the Medical Society of London.)

The author went most fully into the early history and botanical characters of the plant, the first notice of which was by Jacob Cornuti, in 1635. It was cultivated in England prior to 1640. He showed the metamorphosis of denomination it had undergone till the time of Linnæus, who settled the name of the plant. It belongs to the sexual system Polyandria Monogynia, and the natural order Papaveraceæ, and is common to a large portion of the North American continent, especially Canada, where it was first discovered. It is perennial, and the only officinal part is the rhizome, which abounds in an orange-red colored juice. As met with in commerce, it is in the form of dried root, and, from its cheapness, is unadulterated. The box of specimens exhibited was from Messrs. Lyman, Savage & Co., of Montreal, and contained eight pounds. The odor of the root is somewhat narcotic, and, on handling, causes sneezing. The qualitative analysis, as determined by the author and other observers, is as follows: 1, sanguinarina; 2, porphyroxin; 3, puccine; 4, chelidonic acid; 5, fecula; 6, saccharine matter; 7, vegetable albumen; 8, orange-colored resin; 9, fixed oil; 10, extractive matter; 11, lignin; 12, gum, (a little.) The sanguinarina is an alkaloid, discovered by Dr. Dana, and contains the active principle of the plant. The porphyroxin was extracted from it by Riegel, and is analogous to the same principle discovered by Merck in opium. Puccine is a third principle, discovered by Mr. Wayne, of Cincinnati; and this name was given to it by the author, after the Indian appellation of the plant. Several of the other ingredients were detected by the author himself.

A series of experiments were performed on man and animals, by the author, and Dr. Fenwick, of Montreal. They went to show that, in its concentrated form, bloodroot was extremely irritating to man and animals, affecting principally the mucous membrane of the stomach and bowels. An excessive quantity acts as a poison, and produces violent vomiting, a burning sensation in the stomach, tormenting thirst, faintness, vertigo, indistinct vision, and alarming prostration of strength. Its properties, in regulated doses, are those of an emetic: nauseant, expectorant, and diaphoretic. A narcotic, sedative, stimulant, and alterative property is occasionally exerted. As an emmenagogue, it has long been known; and it is used as an escharotic and errhine. As an emetic and expectorant, it is highly valuable in various chest and throat affections; and has been employed in pneumonia, phthisis, bronchitis, catarrh, asthma, croup, diphtheria, cynanche maligna, and pertussis. As a diaphoretic, stimulant, and alterative, it is administered in many diseases in which sudorifics are indicated. In scarlatina, rheumatism, jaundice, dyspepsia, hydrothorax, and some other affections, its virtues have been praised by many practitioners. The general experience of those who have tried it in cancer is, that it is perfectly inert in that disease; and it is satisfactorily proved that it was not originally employed by the Indians of the shores of Lake Superior to cure cancerous affections. Its value, locally, in many skin affections, is undoubted, and it is certain to cure many obstinate forms of head eruptions.

Several American physicians have given their testimony to its value in some of the stages of pneumonia, and especially in the chronic form. As an expectorant in the first and second stages of phthisis, its action is said to be very reliable. The author found it especially serviceable in the pretubercular, the second and third stages of the disease, and not less valuable in bronchitis. Short abstracts of several cases of phthisis in different stages were related, to illustrate the good effects of the remedy; in all of which the expectoration became easy, the breathing clearer, the spasmodic efforts at coughing less, and even in the last stage much improvement resulted for a time. As an expectorant and mild stimulant in the second and third stages it cannot be surpassed, and materially helps to prolong life even in very hopeless cases. In consumption, associated with disease of the windpipe and throat, the tincture is useful in promoting warmth and easy expectoration. In chronic bronchitis it is in most general use in North America, as one of the most active and useful expectorants; and the author has for several years found it more serviceable in this disease than many other remedies. It will allay the cough and irritation in some forms of follicular inflammation of the throat, associated with phthisis or bronchitis. Not less serviceable is it in various forms of catarrh, particularly in the chronic, associated with emphysema. In coryza, or cold in the head, it is much employed, and has been found useful by the author. The paroxysms of asthma are relieved by it, and their severity and frequency diminished. It is a remedy in common use for pertussis in the United States; but although it had cured cases under the author's care, he did not recommend it as superior to other remedies. It is also much employed in croup, in the membranous form. As an emetic in the croupal form of diphtheria, it acts with energy, and produces a thrilling effect upon the entire mucous membrane of the fauces and respiratory tract, with a feeling of warmth. It alone seems to impart vitality to the suffering throat, and is recommended by the author with confidence, in the form of decoction or infusion, four to eight drachms, at short intervals, until vomiting ensues; it is then to be followed by steel and other preparations recommended for this disease. In the malignant form of diphtheria, besides active and energetic treatment, an acetous decoction of bloodroot as a gargle will prove invaluable. Its usefulness in epidemic malignant scarlatina has been fully tested by Dr. Jennings, of Virginia, in the same form of gargle; a fact which should be borne in mind when this epidemic appears. Some evidence was also afforded of its good effects in certain forms of chronic rheumatism, and in some hepatic affections. In amenorrhœa, it will prove, either alone or combined with other substances, one of the best emmenagogues. The skin diseases which have been cured by it in the form of ointment are scabies, tinea capitis, impetigo of the scalp, and many others. The preparations in use are—the powder; the compound powder of the author; the powder with camphor; the infusion, decoction preserved juice, and oil; the extract, tincture, wine, vinegar, syrup, and ointment.—(*Lancet*, Am. ed., April, 1860.)

XV.—*Inhalation of Chloroform.* By Dr. BERAUD.

An interesting paper has just been communicated to the French Academy of Medicine by Dr. Beraud, on the subject of Dr. Faure's method of administering chloroform. This method consists in causing that agent to be inhaled by one nostril only, the other remaining, meanwhile, in free communication with atmospheric air. The apparatus is extremely simple, consisting of a bottle with two necks or tubulatures, and capable of containing one hundred grammes of water. An india-rubber tube with a tapering end is adapted to one of the necks, and is intended for insertion into the nostril; the other neck remains open, the operator stopping it with his thumb when necessary. The tube is seventeen centimetres in length, and has a diameter of at least thirteen millimetres. To use this apparatus, pour about ten or twelve grammes of chloroform into the bottle, and having stopped the open tubulature with your thumb, let the patient receive the tube into his nostril, recommending him to breathe naturally. There being no communication between the bottle and the atmosphere the chloroform does not evaporate, and the patient is not aware of any unpleasant sensation.

The subject having now acquired the habit of breathing in that way, the operator gradually slackens the pressure of his thumb, and allows a little air to enter, by which means the patient inhales atmospheric air charged with a little chloroform. From that moment, according as the painful sensation increases or diminishes, the outer air is alternately admitted or excluded, until the thumb being entirely withdrawn, the patient receives the full quantity required. The operation may also be conducted thus: Let the patient breathe through the empty bottle, and then introduce a drop of chloroform, then another, and so on gradually. The great point is not to allow the effluvia of chloroform suddenly to exercise too irritating an influence upon the respiratory organs. After the second or third minute the operator should shake the bottle, so as to project the liquor on its sides, by which the evaporating surface is considerably increased. Should the patient happen to open his mouth, the operator must close it with his hand. By this process the patient feels no pain, no sensation of suffocation or dyspnœa, nor is there any congestion of the brain. The state of anæsthesia may be continued with the greatest ease, and without danger, by keeping the tube ready to be again introduced into the nostril, if necessary; nor is there any possibility of sudden asphyxia, as the effects of the agent develop themselves very gradually.—(*Times*, and *Pharmaceutical Journal and Transactions*, February, 1860.)

XVI.—*Remarks on Propylamin.* By DR. H. STABLER, of Alexandria.

In a letter addressed to the editor of the *American Journal of Pharmacy* we find the following remarks on propylamin, which was so highly recommended by

Dr. Awenarius, of St. Petersburg, as a remedy in acute and chronic rheumatism, (see this journal for January, 1859, p. 180,) and for the preparation of which a formula was published by Professor Wm. Procter, in the *American Journal of Pharmacy* for March, 1859:—

"I prepared a portion of propylamin from herring pickle, soon after reading the article, and induced some of our physicians to use it in their practice, which resulted in establishing its reputation among us as an indispensable remedy. It has been in use here about nine months, and has been administered in about fifty cases with most marked effect, seldom failing to give relief in twenty-four or thirty-six hours in acute cases, and a longer time in chronic rheumatism. I think its great value is demonstrated in acute rheumatism of young subjects, where the disease, unless quickly controlled, is so liable to attack the structures of the heart. One case of the kind presented in the practice of Dr. I. J. Murphy, of this place, in a little boy: commencing with swelling of the knees, ankles, and other joints, high fever, full, bounding pulse, and other symptoms promising a long, tedious case under the usual modes of treatment; he was directed to take the propylamin in the usual doses, (two or three drops in water for an adult,) and was convalescent in three days. Another physician told me, a few days ago, he had used it with much satisfaction and uniform success.

"A good deal has been published on the preparation and administration of the remedy in the *Journal* and other periodicals, but nothing as to its use in this country that I have met with; thinking it might interest thy readers to describe our experience with it, and perhaps induce further trials of it, is my apology for troubling thee with this letter."—(*American Journal of Pharmacy*, March, 1860.)

XVII.—*On the Use of the Hypophosphites of Soda and of Lime in the Treatment of Phthisis.* By RICHARD QUAIN, M.D.

In this article Dr. Richard Quain states his experience in regard to the use of the hypophosphites of soda and lime in the treatment of phthisis, as recommended by Dr. J. Francis Churchill, of Paris, in a communication read before the French Academy of Medicine in July, 1857. After reviewing Dr. Churchill's theory on the pathology of phthisis, and on the mode of action of the hypophosphites in this disease, the author continues as follows:—

"Encouraged by statements like this, and by a lengthened catalogue of the phenomena of improved health, which it was said resulted from the use of those remedies in Dr. Churchill's hands, I determined on giving them a fair trial in a certain number of cases. They were, therefore, administered in twenty-two cases, taken, without selection, from among the ordinary in-patients of the Hospital for Consumption, at Brompton. Of this number (twenty-two) twelve were males, and ten females.

"*The stage of the disease.*—Two cases were in the first, ten in the second, and ten in the third stage of phthisis.

"*The dose of the remedy.*—Dr. Churchill recommends ten to thirty grains as the dose, of either the hypophosphite of soda or of lime, daily, in a simple fluid. The dose to be increased until the general symptoms disappear. In some cases he prefers the one salt to the other. For example, he thinks that the salt of lime checks the expectoration, and thereby increases the cough; while the salt of soda is less energetic in its action. I met with nothing confirmatory of this impression. The dose given to the patients at Brompton was, in the first instance, ten grains, three times a day, except in the case of a child, where only five were given. The disease progressing, or being stationary, or the effects of the remedy being *nil*, the dose was gradually increased. Thus, in four cases, it was increased to a drachm three times a day; in ten cases, the dose reached two scruples or more; in eight, the dose remained under half a drachm. It will thus be seen that the remedy was given freely. In no case, let me add, was there any appearance of the troublesome symptoms indicated by Dr. Churchill as following large doses.

"*The duration of the treatment.*—One case was under treatment for six months, one for four months, six for three months, nine for two months, five for one month. During this lengthened course of treatment, I looked anxiously, but in vain, for those marked physiological effects described by Dr. Churchill. There were no evidences of the "improved powers of innervation;" "the hair and nails did not grow more rapidly;" there was no "appearance of plethora or of fullness;" the patients did not describe "an unaccustomed sensation of feeling better and stronger after a few doses of the remedy." Nay, I would say that there was nothing more felt by the patient, nor noticeable by the physician, than if so many grains of carbonate of soda or prepared chalk had been taken.

"*The results.*—To return, then, to the more immediate object for which these agents were administered, viz., to ascertain their value in the cure of consumption, I have to state, that of the twenty-two cases, six were more or less improved while under treatment. Of these six, three were improved in but a slight degree, and only for a short time; in three the improvement was marked, but in one only of the latter has the improvement been permanent; of the two other cases, one continued using the hypophosphite for three months after leaving the hospital, during which time she grew gradually weaker, and finally died; the other, a man, after leaving the hospital, continued the treatment for some time, but gradually grew worse, and is now dying. All the other sixteen cases steadily lost ground while using the hypophosphites in the hospital. Happily, in six of these cases, the treatment by hypophosphites was suspended, and the usual treatment by cod-liver oil, tonics, etc., being substituted, a decided improvement in each was the result."

In order to illustrate the chief features of the treatment by the hypophosphites, the author reports the history of seven cases, including the three in which alone any useful result *seemed* to follow the treatment. At the end of his communication he states the *conclusions* at which he has arrived, in the following words:—

"Reviewing the cases of which the preceding may be said to be types, we see that of twenty-two individuals laboring under phthisis, submitted to the hypophosphite treatment, sixteen derived no benefit whatever; in three the benefit was so slight and temporary as scarcely to deserve notice; in two the improvement, though marked, was temporary; and in one case the result has been satisfactory and permanent. Small as the therapeutical powers of the hypophosphites are shown to be by these facts, are we justified in assigning to them even thus much? I think not. For we cannot forget that our cases are hospital cases; that, oppressed by sickness, care, and anxiety, they come from close, unhealthy localities; that they were more or less destitute of good food and good air. When they enter the hospital, they begin to feel the influence of hope; they live in warm, airy, and well-ventilated wards, find agreeable occupations, and have plenty of good food. Under such circumstances, the patients frequently improve in health, without the application of any medicinal agents. It would therefore be as fair to attribute the slight or temporary improvement which took place in some of these cases to hygienic as to the therapeutical agencies. Nay, further, this opinion is confirmed by the fact that two or three cases which did best in the hospital ceased to do well when they left it.

"Desirous of otherwise testing the value of these substances, I thought it would be well to compare the results of my ordinary hospital practice with that of the hypophospite treatment. With this view, I requested my friend and late clinical assistant, Dr. Hill, (to whom I am indebted for much assistance in this inquiry, and for the notes of the preceding cases,) to make abstracts of any twenty-two successive cases in the hospital books. He did so, and having ascertained the results of the treatment in these cases, I find that he has given me notes of eleven males and eleven females, of whom three were in the first stage of the disease, five were in the second, and fourteen in the third. It will be remembered that twelve were in the first and second stage, and ten in the third. Thus in the former cases, the advantage was in favor of the hypophosphite cases, so far as the stages of the disease were concerned; nevertheless, we find that of the cases submitted to other treatment, sixteen were more or less materially or permanently benefited, while in six only did the disease progress unfavorably. Exactly the converse was the case when the hypophosphites were given. Thus there were sixteen of twenty-two cases unrelieved. This comparative evidence is further strengthened by bearing in mind that six of the cases in the former series, which were unrelieved by hypophosphite treatment, did well subsequently under other treatment.

"A review of the preceding facts has led me to form a most unfavorable opinion of the value of hypophosphites in the treatment of phthisis. I believe them to be comparatively, if not absolutely, useless. I have been induced to take some little pains in investigating the subject, because of the unhesitating confidence with which their value is asserted and their use recommended in certain quarters, and I have also seen in the cases of some patients who have visited Paris, how much time has been thrown away by substituting the use of these salts for remedies of undoubted efficacy in controlling the progress of phthisis."—(*London Lancet*, March 17th, 1860.)

XVIII.—*Saccharated Lime.*

Lime dissolves in water in much larger proportion in presence of sugar, and this solution is strongly recommended as a tonic and antacid by Dr. John Cleland.

Dr. Cleland gives the following formula for its preparation:—

Slake eight ounces of quicklime; rub up with it five ounces of white sugar; add one pint of water; stir for some time, till the hard, stiff masses which the sugar and lime are liable to run into are as much as possible dissolved; then filter. The product should be perfectly clear, and of only a slightly yellowish tint. It should be kept in bottles, well stoppered. Dose, 20 to 60 minims, in water, after meals.

This preparation, Dr. Cleland asserts, does not weaken digestion like the alkalies, but on the contrary, is an important tonic in dyspepsia. While it corrects diarrhœa dependent upon disordered digestion, it is a valuable means of overcoming the chronic constipation owing to dyspepsia. It may be found useful also in allaying the cravings of the intemperate.—(*Edinburgh Med. Journal*, August, 1859.)

XIX.—*On the Seat of the Vesicating Principle of Lytta Vittata.* By PROF. JOSEPH LEIDY.

Professor Leidy has satisfied himself, by a series of well-devised experiments, that the vesicating principle of this fly belongs to the blood, the peculiar fatty substance of certain accessory glands of the generative apparatus, and to the eggs.

The active principle of cantharides was thought by Pereira and others to reside in the generative organs of the animals.—(*Am. Journ. Med. Sci.*, January, 1860.)

TOXICOLOGY AND LEGAL MEDICINE.

I.—*Toxicological Remarks on Nitro-Benzine.* By DR. CASPER.

Nitro-benzine or nitro-benzide, discovered by Mitscherlich in 1834, is obtained by treating benzine with fuming nitric acid; it is a liquid substance at the ordinary temperature, yellow, of sweet and pleasant taste, and exhaling a strong odor of bitter almonds. It crystallizes at + 3 degrees, and dissolves easily in alcohol, ether, and the oils, very little in water. Its composition is represented by the formula, $C^{12}H^5$ $CezO^4$.

This substance is very generally applied in perfumes, as a substitute for the essence of bitter almonds and hydrocyanic acid; the druggists sell it in large quantity, and as its price is not very high, there is reason to fear that sooner or later it may give rise to cases of accidental or criminal poisoning. Dr. Casper has ascertained by experiments on the rabbit and dog, that it possesses very energetic poisonous properties.

The blood and the different organs of animals poisoned by nitro-benzine emit an intense odor of bitter almonds. But as most toxicologists of the present day assume that this odor is sufficient to characterize poisoning by prussic acid, it is important to be aware of the fact, that in a case of poisoning by nitro-benzine the same characteristic circumstance is observed. Further investigations will, no doubt, serve to establish differential marks. M. Casper has noticed, in this respect, that the odor of nitro-benzine persisted, in his experiments, for several days after death, while hydrocyanic acid commences generally to decompose on the second day. It will be useful to bear this difference in mind.—(*Vierteljahresschrift für gerichtliche and öffentliche Medizin*, t. xvi. p. 1, and *Gazette Hebdomadaire*, February 24, 1860.)

II.—*On the Detection of Phosphorus.* By DR. FRED. HOFFMAN.

The author has instituted a series of more than one hundred and fifty experiments with Mitscherlich's method for detecting phosphorus. He has mixed the phosphoric mass of matches in different preparations, with food cooked in various ways, with beverages commonly used, and with medicines in a liquid, soft, and plastic state, and kept the mixture for a variable length of time. The presence of phosphorus, it will be remembered, is established by the phosporescence imparted to the aqueous vapors on distilling the liquid or liquefied mixture, and the distillation of the phosphorus is increased by the addition of sulphuric acid, chloride of sodium, sugar, etc., whereby the boiling point is made to approach that of phosphorus.

In the place of Mitscherlich's apparatus, the author has constructed a more simple one, which is easily prepared and readily taken apart. It consists of an ordinary flask, connected with a receiving bottle by means of a glass tube, which passes about eighteen inches through a glass cylinder, filled with cold water. A long, straight tube conducts the gaseous products from the bottle. The lamp and flask are surrounded with dark paper, and about three-fourths of the glass cylinder. The operation is best performed in a dark room.

The phosphorescence of the liquid increases in intensity with the consistence of the liquid and the quantity of the phosphorus. The gas bubbles are luminous, rise in the mixture, and apparently burn upon its surface with a bright flame. With the temperature the light is increased; a photosphere fills the flask, rises in the tube, and moves up and down within the cooled part. Sometimes only a column or a luminous ring appears stationary at the point where the vapors are cooled, and a luminous fog or sparks gradually sink into the receiver, or a sudden, frequently repeated lightning is observed. If the heat is raised too high, or the cooling is insufficient, the luminescence passes through the long gas-tube, at the mouth of which the gases take fire, if the volatile oils from cruciferæ (mustard, etc.) have been present.

Coffee, mustard, smoked meat, highly-seasoned food and beverages, and medicines containing odorous gum-resins, volatile oils, musk, castor, camphor, chlorine, etc., have the property of covering the odor of a small portion of phosphorus; minute quantities, which yet produce the symptoms of gastro-enteritis, may not be recognized by the odor in the contents of the stomach. The reaction is not prevented, except by the presence of much alcohol, volatile oils, and mustard. If the quantity of phosphorus be not too insignificant, the phosphorescence is observed, either momentarily or constant, at the beginning of the distillation, and after the alcohol has passed over.

The reaction is not interfered with by the presence of ipecacuanha, tartar emetic, magnesia, hydrated oxide of iron, musk, castor, opium, albumen, neutral, acid, or basic salts and double salts, volatile organic acids, chlorides, iodides, and sulphides, and by free acids; but iodine, chloride and bichloride of mercury in considerable proportion, and metallic sulphides in the presence of free sulphuric acid, and particularly oleum cinæ, (artemisiæ,) interfere with or prevent the reaction.

Numerous experiments, by distilling the brain of various animals, blood, albumen, casein, fibrin, legumin, and other protein compounds with diluted sulphuric acid, yielded not the least photospheric reaction.—(*Archiv. d. Pharm.*, Oct. 1859, and *Am. Journ. of Pharmacy*, March, 1860.)

III.—*Arsenical Fly-Papers.* By R. H. BRETT, Ph. D., M.R.C.S., etc.

These papers differ considerably in weight, the lighter weighing about fifty grains, the heavier from eighty-five to ninety grains. They were all well dried before weighing. These papers may be divided into two classes: the one, "Papier Moure," containing the arsenic in the form of arsenic acid combined with potash; the other, arsenious acid, not combined with a base. Both sorts, when burned, gave out the peculiar odor of metallic arsenic; but the papers called "Papier Moure," yield an ash having a strong alkaline reaction, from which ash water dissolves carbonate of potash, readily detected by the ordinary tests; the other class of papers do not furnish any potash by burning. When the "Papier Moure" are boiled with distilled water, a solution is obtained, which is precipitated white by a salt of lime, brick-red by a neutral solution of nitrate of silver, and yellow by hypo-sulphite of soda and muriatic acid when heated, indicating the presence of arsenic acid. Both sorts of paper, when boiled with diluted muriatic acid and bright copper-wire, deposit metallic arsenic upon the copper surface, which deposit, when heated in a test-tube, furnishes a crystalline sublimate of arsenious acid. The metallic arsenic is, however, more readily thrown down from the papers where the arsenic exists in the form of uncombined arsenious acid than from the other description; the experiment. nevertheless, is sufficiently striking in either case. The quantity of arsenic in these several papers, estimated as *arsenious acid*, does not materially differ, with the exception of one of the arsenious acid papers, where nearly double the amount was obtained; indeed, it was found that when only about two square inches of this paper were boiled with fine copper wire and diluted muriatic acid, so much metallic arsenic was separated that the latter came off the copper surface, by simple agitation in water, in the form of small black flakes. As the "Papier Moure" gives a bitter-sweet extract to alcohol, it was examined for strychnine; this alkaloid, however, could not be detected. There is reason to believe that the bitter taste is due to quassia mixed with a little saccharine matter. The average weight of the fly-papers operated upon may be taken at about sixty-nine grains, and the average percentage of arsenic, estimated as *arsenious acid*, (not including the paper yielding fifteen per cent.) at about 7·69 grains, thus giving to each paper as much as 5·3 grains of arsenious acid. Two or three of these papers contain thus sufficient arsenic to poison a whole family.—(*Pharmaceutical Journal and Transactions*, February, 1860.)

IV.—*Arsenical Poisoning by Paper.*

1. Three children, near Tipton, have suffered from the arsenical emanations from a green bed-room paper in a newly-papered house. The symptoms were emaciation, pining, general restlessness, (worse at night,) and twitching of the facial muscles. Dr. Ballenden, observing these symptoms, concluded that they

were suffering from the effects of gradual poisoning; and, on being removed into another room, the children recovered.—(*London Lancet*, February, 1860.)

2. Mr. R. Biggs, of Bath, reports the case of a watchmaker, who consulted him about a very troublesome and irritable condition of the mucous membrane of the mouth, from which he had been suffering for some time. On examination, Mr. Biggs discovered several small superficial ulcers extending along the inner surface of each lip, varying in size, the smallest being mere specks, the largest about one-twelfth of an inch in diameter. The smarting and annoyance were intolerable, and much increased in the evening, when the lips swelled and became so painful that eating, or even speaking, could hardly be indulged in; together with these symptoms there was profuse ptyalism. Different modes of treatment were pursued without producing any, or only a temporary improvement. Happening one evening to go into the patient's shop, the author perceived, on entering, an unpleasant smell, which, on inquiry, he found was produced whenever the patient lit the gas-jet by which he worked, as the heat caused a smell from the varnish covering his paper shade. The author's attention having thus been drawn to the shade in question, which was of a bright-green color, he applied Reinsch's test, and obtained immediate proof of the presence of arsenic, (aceto-arsenite of copper.) All treatment was left off; the patient discontinued the use of the shade, and complete recovery ensued, though not till after the lapse of nearly three weeks.

This case, remarks the author, is interesting in connection with the subject of arsenical paper-hangings, about which there has been so much excitement. It is certain that, while much truth was elicited in the controversy, there was a good deal of error superadded. Several articles were published to prove that the arsenic contained in the paper was volatilized by the heat of the gas in a room, the authors not remembering or not knowing that a temperature considerably above that of boiling water was necessary to produce this result. The rational conclusion finally arrived at was, that the symptoms suffered by the patients were caused by the mechanical separation of the green color, and its subsequent inhalation or absorption. In this case, however, was shown the effects of its actual volatilization, and the short time necessary to produce serious symptoms. The patient had used the shade but a few days before he began to suffer, and the period in which he so much improved was an interval during which he had not worked by gas light; but it should be observed that the temperature of the shade was elevated to a very high degreee, and that, when working, his mouth and nostrils were two inches distant from it.—(*Lancet*, and *Dublin Medical Press*, January 18, 1860.)

V.—*Detection of Blood Stains.* By M. BRUCKE.

In medicò-legal inquiries, it is often of the utmost importance to determine the character of red spots on linen or steel, supposed to be blood stains. M. Brucke has recently published the following method, as being superior to those in common use:—

"Wash the spot with cold distilled water. To the reddish liquor thus obtained add a solution of sea salt, and evaporate to dryness, in vacuo, over a vessel containing sulphuric acid. Examine the dry residue well through a microscope, in order to verify whether it contains any matter that might be mistaken for Tetchmann's crystals; then add a little highly-concentrated acetic acid; evaporate again to dryness; moisten the residue with water; and then, if there really be blood in the spots, the microscope will reveal unmistakable crystals of hæmatin."—(*London Lancet*, January 14, 1860.)

Bi-Monthly Periscope.

SURGERY.

1. Cases of Amputations with Acupressure. By *J. Y. Simpson, M.D.*, Professor of Medicine and Midwifery in the University of Edinburgh.—If after amputation of a limb, any British hospital surgeon at the present day were, for the purpose of arresting hemorrhage from the bleeding stump, to sear its raw surface over with red-hot irons, or besmear it with boiling pitch or turpentine, or apply to it potential caustics, the practice would be regarded as cruel and outrageous in the higest degree. Yet when Paré, in 1564, proposed in amputations the ligature of the bleeding vessels as a substitute for these cauteries and caustics, he was bitterly denounced and decried by most of his contemporaries; the French Parliament was petitioned to suppress the publication and dissemination of his doctrines; and the surgeons of the great Hospital at the Hôtel-Dieu of Paris (the city in which Paré himself lived and practiced) still continued, a century and a half afterwards, to use, as we learn from Dionis, in 1707, the vitriol button (a form of potential caustic) instead of the ligature, in all their amputations. And half a century later, Mr. Sharpe, Surgeon to Guy's Hospital, when writing in 1761, found it necessary, in his well-known work, entitled "A Critical Inquiry into the Present State of Surgery" in England, formally to advocate the employment of the ligature for the arrest of hemorrhage from wounded arteries, in preference to styptics or the cautery, on the ground that "it was not as yet universally practiced among surgeons residing in the more distant counties of our kingdom." (Erichsen's Surgery, p. 141.) In some semi-rude countries and communities, caustics are still the only hæmostatics employed after amputations. A few years ago my friend, Dr. Arthur Mitchell, when in Algeria, passed some time as a guest with a powerful Sheik in the Sahara. His host, who had been an officer of high rank in the army of Abd-el-Kadir, had his leg shattered by a French cannon-ball, and it was subsequently amputated by the surgeons of his country at the knee-joint. They stemmed the hemorrhage by applying hot pitch to the raw surface of the wound; and the stump itself was, as Dr. Mitchell assures me, an excellent and useful one.

If some correspondent of the *Times*, writing at the present hour from the camp of the army of Morocco, were to inform the English readers, professional and non-professional, that the African surgeons there, after amputating the damaged limbs of the soldiers wounded at Tetuan, deliberately placed five or six seton-threads between the surfaces of the flaps, and systematically attached and anchored these several seton-threads to little strangled pieces of flesh in the depths of the wounds, necessitating the seton-threads slowly to ulcerate, suppurate, and mortify through the points to which they were fixed before they were allowed to escape or be detached, perhaps many would, at first sight, deem such strange practices as characteristic of the "barbarous Moor." Yet, after all, this is only and truly what the enlightened surgeons of modern Europe do, when they stanch the hemorrhages after amputations by tying silken ligatures around the drawn-out and isolated ends of the bleeding arteries. For, assuredly, these silken ligatures, with the imbibed dead, and sometimes morbid, animal fluids decomposing in them, speedily and certainly become small irritating setons along the whole course of their tracks; and, as is known to every practical surgeon, and as has been especially pointed out by Bell, Crosse, Brodie, Pecot, Velpeau, Wise, and others, the portion of every artery strangled by the ligature ultimately sloughs off, and generally comes away in the loop of the ligature itself. Thus the author of the latest work published on surgery in the English language, namely, Professor Gross, of Philadelphia, when treating of this subject, observes: "The process by which the separation of the ligature is effected is worthy of inquiry. It is generally ascribed to ulcerative action, and this is undoubtedly true; but it is equally true that that portion of the artery immediately embraced by the ligature *mortifies, and comes away in the form of a slough.*" (System of Surgery, 1859, vol. i. p. 810.)

Union by the first intention, of the flaps of a stump after amputation, is certainly an object worthy of being aimed at by all possible means, more especially as the operation of amputation is usually performed in persons who have their constitutions damaged and shattered by previous disease or injury, and who are hence little capable of sustaining, without danger, any prolonged or severe local morbid action. For entire closure of the operation-wound by the first intention would transform a cure which usually lasts for many weeks into a cure of almost as many days; it would save the patient from the protracted suffering and distress produced by the continued dressings and discharges; and no doubt it would avert, in many instances, the dangers of pyæmic poisoning and surgical fever arising from the absorption of decomposing matters produced by local suppurations and sloughings in the depths of the wound.

But, for the reasons above adverted to, complete closure of an amputation-wound by the first intention is extremely rare, or, indeed, impossible, when ligatures are employed to secure the bleeding vessels. On the contrary, surgical wounds, under the most disadvantageous circumstances, readily enough unite by the first intention when arterial ligatures do not happen to be employed—as we see in the primary adhesion of the wound in hare-lip, despite the presence of the saliva; in the successful reunion of the revivified lips of vesico-vaginal fistulæ, despite the constant contact of urine; in the rapid closure of the wound in lithotomy; and in the success attending upon the whole class of operations included under the term of "plastic surgery"—a class of cases in which arterial ligatures are almost never employed.

Under the name of *acupressure*, or *acupression*, I some time ago proposed a plan of arresting hemorrhages in surgical wounds and operations by the employment of metallic pins or needles instead of ligatures. For the mode or modes of using these, I can only here refer to the descriptions which I have elsewhere published on the subject. (See *Edinburgh Medical Journal* for January 1, 1860, p. 645, and *Dublin Hospital Gazette* for January 2, 1860, p. 7.) They have this one very great advantage over ligatures, that the heads of the needles being left out on the cutaneous surface of the flap, the needles themselves can thus in every case be entirely withdrawn in forty or fifty hours, or as soon as the complete closure of the artery has been established, leaving no foreign body whatever in the flaps or walls of the wound to prevent their speedy and complete union. Besides, during the brief period that they are thus left in the wound, they are, as contrasted with organic ligatures, comparatively innocuous. For, in accordance with the general pathological law of the tolerance of animal structures for metallic bodies imbedded in them, metallic needles cause little or no irritation by their presence, as seen in the harmless retention for months or years of bullets, small-shot, pins, etc., in the body; in the relative innocuousness of long needles introduced and lodged for the purpose of acupuncture; in the non-irritating character of iron, silver, and other metallic threads, when used as surgical sutures; in the employment, by all our best surgeons, of metallic pins or needles in the union of hare-lip, where the whole aim and object of the operation is to secure and establish primary adhesion of the lips of the wound; and in the safe retention, during several days, of a metallic needle, passed through a fold of the peritoneum itself, in Rothmund's operation for the radical cure of hernia.

Granting, however, that acupressure by metallic needles is simpler and safer than the silken ligature, the great practical question remains—Is it actually sufficient for the closure of the arteries usually divided in surgical operations? Before publishing on the matter, I had experimented on the subject in the lower animals, and had shut up easily by it the carotid artery of the horse—the largest living vessel which was within my power to experiment upon. I had made also various experiments with it, in the way of amputation and other experiments, on the dead human subject—imitating the flow of blood by the injection of tepid water along the arteries. And, lastly, I had used it with perfect success in the living human subject, in shutting up the arteries that were divided in three cases of excision of the cancerous mamma. In the last of these three cases I had to close six separate arteries with an equal number of acupressure needles. But, not being a practical surgeon, I had, of course, no opportunity of testing it myself in any of the graver operations of surgery, such as amputations of the limbs. Through the kindness, however, of my surgical friends, I am able to report the effects of acupressure in four cases of amputation in which it has been employed during the past month.

For the first application of acupressure to the arrestment of hemorrhage after amputation of the limbs, I am indebted to one of the most accomplished and advanced surgeons in this country—my friend, Dr. Greig, of Dundee. Formerly as surgeon to our army in the East, and latterly as surgeon to the large hospital at Dundee, Dr. Greig has enjoyed extensive opportunities as an operator. His very interesting letters to me on the subject of acupressure indicate the change and struggle which every earnest and ingenuous mind has in setting aside old-established and cherished practices for the adoption of what is new. When I first took the liberty of directing his attention to the subject, as contained in an abstract of a paper on it in the January number of the *Edinburgh Medical Journal*, and asked him to be so good as to test the plan, he wrote me, January 8, 1860, that he could "see no great difficulty in giving the thing a fair trial." But he adds: "Of its general adoption I have great doubts. We have been always taught to look upon the ligature as the only true means of arresting hemorrhage, and this feeling it is somewhat difficult to get out of one's mind. Your illustration of fixing a flower in the lapelle of the coat by means of a pin, explains the whole thing."

Case 1.—Two days afterwards, January tenth, Dr. Greig wrote me: "I performed amputation at the forearm, this afternoon, in a case of laceration of the hand from the bursting of a gun, and I used the needles instead of ligatures for arresting hemorrhage. Both the radial and ulnar arteries bled freely, but were easily controlled by a needle placed on each, almost half an inch above the cut end. Both needles were, of course, in the palmar or anterior flap, and were applied *quite as easily as a ligature*." These last words are underscored in Dr. Greig's letter, and show that thus the very first trial of acupressure proved as easy as deligation in the hands of a surgeon who for years had been in the constant practice and habit of applying ligatures to arteries for the stanching of hemorrhage in his operations.

Case 2.—Three days afterwards, January thirteenth, Dr. Greig again wrote as follows: "I have had another amputation at the middle of the forearm to-day, and used acupressure with ease and success. The process, so far as I have tried it, is *the simplest* that one can imagine; and, unless I see some good reason for changing my mind, it must ultimately come into universal adoption. It is really surprising how very little pressure is required to stop bleeding from an artery. In fact, I had no idea of it till I tried acupressure."

On January twentieth, Dr. Greig writes: "Both the cases of amputation in which I used acupressure have done remarkably well. There has been less irritation and less suppuration, and the wounds are healing more kindly than had ligatures been employed. The first case did not close by the first intention, owing to part of the anterior flap having been lacerated by the explosion. The second has gone on as well as could be wished—no fever, no irritation—and the wound is healing by the first intention. What surprises me more than anything else is the very small amount of pressure which is required to stop arterial hemorrhage. In passing the needle over an artery I do not think it will be found necessary to turn it sharply over the vessel, thereby binding it very tightly to the flap. Such a degree of pressure is by no means required. Less irritation is caused by passing the needle more lightly across the artery, and taking in more tissue along with it."

"It is a great comfort also," Dr. Greig adds, "to both patient and surgeon, that by acupressure the artery is closed in about forty-eight hours (a large artery may, of course, require a longer time,) and all cause of irritation at once removed. In my first case I allowed the needles to remain in for three days; but in future I will consider two days long enough; and, for all I know, perhaps it is longer than is required."

"I have now the greatest faith in acupressure. I intend employing it in all kinds of cases that may come under my care, and I will have no fear whatever to use it in my first thigh amputation."

"In giving directions for securing the vessel, you advise the surgeon to place the fore finger over its bleeding mouth, etc. Now you will find it much better when you have a flap to keep the finger of the left hand on the skin side and use the thumb. You feel the vessel beating between the thumb and the fore finger, and you can introduce the needle in the dark."

I heard again from Dr. Greig, on January twenty-third: "The amputations," he states, "are doing well, and both patients are walking about the wards. Yesterday," he continues, "at a case of removal of the mamma, I again used the needles, and easily arrested the hemorrhage from two arterial branches which were spouting freely in the upper or axillary flap. A small branch of an intercostal was the only other bleeding vessel, and torsion was used for it. Nothing could have been easier or more beautiful than acupressure applied in this case, as the procedure was seen in its simplest form—more so than in a flap. I see," Dr. Greig adds, "that in France, M. Foucher (see *Medical Times and Gazette* for January 21st, p. 72,) has tried acupressure on the dead subject, and also on a dog. I wonder why he did not try it in an amputation. Nothing can be easier; and if a surgeon uses it once I am sure he will do so again."

Case 3.—On January thirtieth, I had an opportunity kindly afforded me by Mr. Edwards, lecturer on surgery here, of applying acupressure to stop the bleeding following an amputation of the foot through the first row of tarsal bones. The patient had been unable to work for one or two years, in consequence of an injury to the foot, which led to necrosis, and intractable caries of the anterior row of tarsal bones. He was a strumous subject, and his health was much damaged and broken down by the effects of the disease. Mr. Edwards performed the operation with great dexterity and rapidity, and the four or five vessels that bled were easily secured by as many acupressure needles. The section of the astragalus showed the existence of some disease in its cancellated tissue, which necessitated the removal with the gouge of a portion of its structure. The whole surface of the bone laid bare by the saw and gouge was vascular, and continued to ooze out blood as long as it was exposed. But as the patient was very weak and reduced. Mr. Edwards was anxious to close and stitch up the wound as soon as possible, and before the chloroform-sleep was over. The needles were all removed from the stump about fifty hours after the amputation. During the two subsequent days, there twice occurred a slight oozing of blood from the outer angle of the wound, but not more than enough to redden the moist dressings; and this altogether ceased on the removal of an old ash-colored clot from the situation above mentioned. To-day (eight days from the date of the operation) the stump is healing kindly, and the patient feels well.

Case 4.—In the preceding three cases of amputation, acupressure was effected by passing the needles from the cutaneous surface of the flap, over the track of the bleeding vessel, and then causing their points to emerge through the skin at some distance. In other words, in all these cases the cutaneous portion of the flap was used as the point of resistance against which the wounded artery was compressed by the bridge of the needle passing over it. In an instance of amputation of the leg immediately below the knee, performed on January thirty-first, in the hospital at Carlisle, by my esteemed friend Mr. Page, I had an opportunity of applying acupressure in another of the modes suggested in my paper on the subject, viz., by compressing the principal bleeding arteries against a neighboring bone as the resistant point. The cause leading to the amputation was very extensive, old-standing, irremediable disease of the tibia. It is, I believe, generally acknowledged among surgeons, that in consequence of the deep situation of the two tibial arteries, between the tibia and fibula, and in proximity to the interosseous ligament, seizure and deligation of these vessels in amputation immediately below the knee are, as a general rule, more difficult to accomplish than the ligature of the arteries cut across in any of the other amputations of the limbs.

After Mr. Page had removed the diseased limb in the case in question, I stayed the hemorrhage from the two tibial arteries by compressing and closing them with two needles introduced through the cutaneous surface of the anterior flap, about half an inch above the level of the ends of the amputated bones. The points of these needles, after producing the requisite degree of compression of the vessels against the bone, were pushed onward into the substance of the stump behind. They were not, in this way, visible at any point on the raw surface of the stump. The first needle that I passed failed in producing an adequate degree of compression; but the two next succeeded. Half-way down on the inner surface of the large and fleshy posterior flap, an artery gave rise to some difficulty, for a reason which I had not previously been prepared for. I passed a needle through the flap, a few lines on the upper or cardiac side of this bleeding orifice, so as to produce a sufficient degree of compression across the supposed track of the vessel leading to it, but without the effect of arresting the hemorrhage. On sponging the bleeding point, and examining it more carefully, we found that the jet from the artery was coming from below upward, and not from above downward. In consequence of this discovery, I removed the acupressure needle, passed it through the flap nearer its apex, so as to produce compression two or three lines *below* instead of above the bleeding point, (on the peripheral instead of the cardiac side of that point,) and the hemorrhage was forthwith arrested. Mr. Page closed the wound most carefully with a large number of metallic sutures. He withdrew the acupressure needles seventy-one hours after their introduction. In a letter which I received from him four days after the operation, Mr. Page says: "The man continues to eat and sleep well. Indeed," he adds, "I never had a patient who suffered less from amputation of the leg; and the condition both of the patient and the stump are altogether most satisfactory."

In addition to the four preceding larger amputations, I have heard of some smaller amputations about the fingers and hands performed during the last month, in which acupressure was successfully used for arresting the subsequent hemorrhage. I saw a case of amputation of one of the fingers, in which my pupil, Mr. Pierce Simpson, operated. The arterial bleeding, as well as some general oozing from the surface of the flap, ceased immediately upon the introduction of an acupressure needle. The finger was irritated, and its vessels full and injected, in consequence of the effects of a severe injury received two weeks previously.

In one of the extracts from Dr. Greig's letters, the facility of the arrestment of arterial hemorrhage by acupressure, as compared with the ligature, is adverted to. Any surgeon accustomed to try both will speedily find acupressure to be far the easier and the more expeditious process of the two. Besides, in applying ligatures, the operator always requires the aid of an assistant; he can himself, however, apply acupressure needles without any such aid. While acupressure is thus far simpler in its application, it will also, I firmly believe, be found also far surer in its results as regards all the chances of obtaining complete reunion of the sides of the flaps by the first intention; and far safer, too, as respects the avoidance of the dire mischances of surgical fever from the absorption of morbid and septic matters formed by local suppurations and sloughs in the depth of the wound. Every ligature properly applied around the isolated extremity of a bleeding artery invariably tears and mechanically lacerates the two interior coats of the artery, and afterwards as invariably produces ulceration, suppuration, and local gangrene at the tied point, before the thread can possibly separate and become detached. No such severe and morbid local consequences necessarily result when a bleeding vessel is closed by the temporary contact of a needle; for acupressure does not involve any laceration, ulceration, or mortification of the arteries, which it occludes.

EDINBURGH, 6*th February*, 1860.

Editorial Note on Acupressure, from the Medical Times and Gazette, March 17, 1860.—Acupressure is making progress. There are now known in Edinburgh eleven amputations of the limbs in which the bleeding was arrested by means of acupressure, viz., two of the thigh; four of the leg; one of the arm; and four of the forearm.

Besides these there are two amputations of the ankle-joint or foot; several amputations of the toes and fingers; and various instances of excision of the mamma, etc. All the cases have recovered, or are in the way of recovery, and secondary hemorrhage appears to have taken place in none. The first case in which acupressure was used after amputation of the thigh was in a patient who had spreading gangrene of the leg as the result of a machinery accident. Dr. James Struthers, of Leith, amputated the limb, and removed the needle which secured the femoral artery on the fourth day. In the other thigh amputation, in the practice of Mr. Crompton, of Birmingham, the acupressure needle was withdrawn in fifty-two hours. Our Paris correspondent writes as follows: "M. Foucher, who has just been appointed to the Necker, removed a tumor from the neck of a woman two days ago. He was prepared to employ acupressure, but, with the exception of a small artery, no vessel of any consequence was wounded. This vessel was perfectly controlled by Simpson's method; the needle employed, which was substituted for a ligature, having been removed toward the termination of the dissection, and before the wound was dressed. Foucher is quite disposed to give acupressure a fair trial, and waits only a favorable opportunity to employ it in an amputation. He is pretty confident that it will ultimately supersede the ligature."

2. INTERMITTENT LAMENESS IN THE HORSE FROM EMBOLI, OR OBLITERATION OF THE ILIAC ARTERIES. By *Wörz.*—Wörz adds two observations to twenty-seven

others collected by Hering, as recorded by himself in the "Repertorium." The first of the two cases now published attacked a troop-mare of the royal body-guard, five years old. It is not substantiated by a post-mortem examination, inasmuch as, after repeated attacks of lameness, the mare was cast. In addition to the lameness, there were symptoms of paralysis of the hind legs.

The next case occurred in a bay gelding, sixteen years old, a cross between Arab and English blood.

This horse seems long to have suffered from weakness in the hind extremities. About the middle of July, 1857, the debility and awkward gait were marked, but the horse appeared otherwise healthy, and was exercised daily, walking for about half or three quarters of an hour. On the 25th of August, while walking, lameness in the off hind leg became manifest. He was moved with difficulty into the stable, where he fell on the straw, and held the above-mentioned limb out stiff. The breathing was labored, and nares dilated. In about a quarter of an hour, the horse rose and eat, and for ten days remained quiet, and apparently recovering.

On the 5th of September, he was for the first time taken out about half-past eight in the morning, and saddled. In about two minutes, the rider observed that the horse was dropping behind, and, in addition to stiffness of the off hind leg, the near hind one became paralyzed, and apparently very painful; sweat broke out all over the animal's body, and breathing was very labored. On being taken into the stable, the horse fell, in a perfectly helpless manner; but in about half an hour rose again. The near leg was useless, and no weight could be borne upon it. It was cold, and deprived of sensibility. The pulse was small, and 60. On examination per rectum, the end of the aorta was felt to be hard and thick, and the iliac arteries not pulsating. On the 6th of September, the pulse was 60, and small; appetite slight; and the near hind leg still stiff and cold. On the 7th, there was an increase of pain, and labored breathing; and as the diagnosis of arterial obliteration was so clear, and recovery impossible, the horse was destroyed, and a post-mortem examination performed, in the presence of Professor Hering. This revealed plugging of aorta, and external and internal iliac arteries; the right crural had, however, remained free.—(*Edinburgh Veterinary Review*, January, 1860.)

OBSTETRICS.

CEPHALIC VERSION OF THE FŒTUS IN THE UTERUS BY EXTERNAL VERSION.—It may be known to some of our readers that Dr. Ignatius Langer, a practitioner of Davenport, was expelled, in 1859, by the Scott County Medical Society of Iowa, on account of alleged unprofessional conduct—one of the principal charges against him being for an attempt to rectify malposition of the fœtal head by external manipulation. Without pretending to know anything whatever of the merits of the controversy, or case in question, and without any desire to side with either party, we cannot refrain from publishing Dr. Langer's citation of authorities in justification of his practice. The subject of cephalic version is just now attracting much attention, in consequence of the proceedings of the Scott County Medical Society, and it is proper, therefore, that we should give our readers the benefit of an outline of the opinions of some of the obstetrical writers in regard to it. It is seldom that there is a public controversy from which, ultimately, good does not come.

"From my limited library, I can produce the reports of a number of successful cases, and more than twenty medical authors of older and modern schools, who wrote on the subject; also the favorable opinion of quite a number of living professors in medical schools of good standing, who are considered all over the educated world as masters in the art. I name them alphabetically, for who will presume to arrange such masters in any other manner?

"BUSH, late Professor at the University of Berlin, Principal Director of the Lying-in Institution, etc.—Text-book on Obstetrics, third edition, Berlin, 1836, p. 400, § 894–96; an extensive treatise on version by manipulation.

"BUSH AND MOSER.—Bush and Moser's Hand-book on Obstetrics, Berlin, 1843, vol. iv. pp. 509–513. On turning by external manipulations, aided by placing the pregnant woman in a proper situation.

"BRAITHWAITE'S RETROSPECT, 1857, p. 214, part 35, July, 1857.

"CAZEAUX, P. Prof. in the Faculty of Medicine in Paris; President of the Medical Society.—A Theoretical and Practical Treatise on Midwifery, translated from the fifth French edition, by Dr. Bullock, Philadelphia, 1859, pp. 772–75. Version by the head has been advised: first, before the labor; second, during labor, and prior to the rupture of the membranes, etc. On the whole, therefore, we believe that the cephalic version may and ought to be attempted. Third, in presentation of the trunk whether before the labor, or during the labor, and before the rupture of the membranes, etc.

"CHIARA, Braun a Spath, Prof. in Vienna, Austria.—In Prof. Scanzoni's Contribution to Obstetrics, Wurtzburg, 1854, p. 319. In the lying-in institutions of Vienna, in 1852, seven thousand eight hundred and thirty-five mothers had seventy cross presentations. Spontaneous versions during the last three months of pregnancy, nineteen times; during the commencement of parturition, twice observed; and the cephalic version by external manipulations, ten times performed.

"CHURCHILL, Fr. Professor of Midwifery in Dublin, one of the Pres. of the Obstetric Society.—Theory and Practice of Midwifery, third London edition, 1855, p. 300, § 508–12–18, on cephalic version.

"CANNSTADT.—A yearly report on the progress of medicine in general. Editors and Professors, Dr. Sherer Wishchoos, Dr. Eisenthann. Wurzburg, 1853, vol. iv. p. 427.

"CONTRIBUTORS TO OBSTETRICS.—New Series: Berlin, 1850; vol. xxviii. p. 259. Two cases of cephalic version, by external manipulation alone; both children alive. Thirteen cases by external and internal manipulations, eleven alive; turning on the feet seventy-five, out of them forty-one alive.

"DETROIT.—Carsus on Midwifery, according to the plan of Dr. C. S. Weiss, Magdeburg and Berlin, 1844, vol. i. p. 331, § 55.

"ELLIOT, GEORGE T.—College of Physicians and Surgeons, New York. Obstetric Clinic, October 14th, 1859. This talented observer, who has taken great pains to inform himself, at the schools of both hemispheres, speaks thus: 'On cross-birth, Mattei, a Corsican Professor of Obstetrics, has proposed an intelligent method of procedure in this class of cases, which is based on sound reasoning, and upon the well-recognized phenomena of reflex action, displayed by the fœtus in utero. Its practice demands an accurate knowledge of the various positions of the fœtus in utero, and a habit of appreciating its various parts, through the abdominal walls; two circumstances which will not allow its benefits to be of service in the hands of men not accustomed to the practice of obstetrics, but which do not invalidate the value of the principle. I have been in the habit of teaching this principle of Mattei's for three years, and it is about time for it to creep into the text-books.'—(Vide *Medical Press*, vol. ii. No. 18.)

"ESTERLE, Professor of Obstetrics in the University of Trient.—In Schmidt's Yearly Reports, vols. civ. and x. p. 76, 1859. In an extensive article this writer insists on the high value of the cephalic version by external manipulations as preventative to premature labor, in cases originating from cross-birth.

"LUMPE, Emeritus Assistant of the First Clinic and Lying-in Hospital.—Cursus on Practical Midwifery, with special regard to the doctrines of the Obstetrical School of Vienna, 1843. With regard to Cephalic Version by External Manipulations, p. 75, § 57. His opinion is so exalted that he considers its happy performance as a sign of the highest obstetric education and skill.

"LONDON LANCET, (American edition,) November 29th, 1856, p. 585.—Martin, late Professor of Jena, now of Berlin, as Prof. Churchill of Dublin states: a very interesting memoir has been published by Prof. Martin, of Jena, on turning by external manipulation alone, founded on thirty-four cases, seven of which occurred to himself.

"MEIGS, Professor of Midwifery in Jefferson Medical College.—Obstetrics, the Science and Art of; third edition; Philadelphia, 1856, pp. 436 and 514.

"MICHAELIS.—The Narrow Pelvis, by Litzman, Prof. of Midwifery and Director of the Lying-in Institute at Kiel. Leipzig, 1851, p. 180, § 212.

"NÆGELE, Prof. of Obstetrics in the University of Heidelberg.—Pathologies, Therapie of Birth, part second, p. 337, § 644; Mainz, 1849. The treatment recommended by Wigand, which seeks to effect the changing of the malposition of the fœtus, into the longitudinal position simply by means of external manipulations and a suitable placing of the pregnant woman, has received more general approbation than the version on the head by means of internal manipulations. Sometimes we can make use of this method already in the last stage of pregnancy, and during parturition it can be applied up to the wane of the second period. It ought, however, never to remain untried, as soon as the malposition of the fœtus is ascertained, at the beginning of the parturition, because its effects are more mild than the version by means of internal applications of the hand; and because, also, where it does not effect the purpose, it does not in any way interfere with any other proceeding which it may be necessary to adopt afterwards.

"NŒGGERATH AND JACOBI'S valuable Contributions to Midwifery and Diseases of Women and Children, with Reports on the Progress of Obstetrics, etc., New York, 1859, p. 124. Dr. Hallett's Report, p. 293. The Report of Dr. Meisner, the obstetric veteran of Saxony, Prof. in Leipzig. Cephalic version is preferred by some practitioners, as giving the child the best chance; but it can only be tried when hastening the delivery is not an object. The author resorted to it in six cases. In four of the three hundred and fifty-one cases, turning was performed by external manipulations.

"NŒGGERATH.—The Operation of Turning by External Manipulations, conidered from a Historical and Practical Point of View; with Cases. The *New York Journal of Medicine*, No. 99, November, 1859, contains (pages 329–347) a very interesting article which is very creditable to the author, who closes as follows: 'We feel it our duty to call upon the profession to remember, that there is such a thing as turning by external manipulation, and that those who have practiced it most often were men, the names of whom we only pronounce with a feeling of deepest admiration.'

"OSIANDER, Professor of Obstetrics and Director of the Lying-in Institute of Gottingen.—Elements of Midwifery, as a manual to his lectures: Gottingen, 1802; vol. ii. p. 35.

"RAMSBOTHAM, Obstetric Physician to the London Hospital, Lecturer on Obstetrics.—By Wm. V. Keating: Philadelphia, 1859; p. 360. Thus Wigand has stated: 'That it is possible, before the waters have escaped, to change the position of the head or even the presentation by external manipulation alone, founded on thirty-four cases, seven of which occurred to himself.'

"ROSSHIRT, Professor and Director of the Lying-in Institute, Erlangen.—The Obstetrical Operations: Erlangen, 1842. Version by External Manipulations, p. 141, § 82.

"SCANZONI.—Text-book of Obstetrics, Preparatory Operations, chapter 6, Cephalic Version (a) by External Manipulations.

"SIEBOLD, Professor of Obstetrics, Director of the Lying-in Institute at Gottingen.—Explanation to the Obstetrical Plates of Theory and Practice of Obstetrics. Second edition: Berlin, 1842; p. 212. To have recourse to external manipulations as soon as the malposition of the fœtus, through the abdominal walls, is ascertained.

"IBIDEM, SIEBOLD, Corresponding Member to the Batavian Society for Science and Art.—In answer to a question on Midwifery in Japan, by one of his former pupils, Mimazunza, now practical physician at Nangasaki, translated in Siebold's Journal, vol. vi. art. 3, p. 687.

"SMITH, WM. TYLER.—A Course of Lectures on Obstetrics, delivered at St. Mary's Hospital, London, with Practical Annotations, by Aug. K. Gardener. Second edition: New York, 1858; p. 674. Cephalic version is very much aided by external manipulation, particularly when the uterus and abdominal walls are sufficiently thin to allow of the different parts of the fœtus being readily felt. Cases are even recorded by Martin, of Jena, and others, in which rectification and alteration of malpresentation have been effected by external manipulation alone.

"VELPEAU.—An Elementary Treatise on Midwifery, etc. On Cephalic Version by External Manipulations. 'I had already followed this precept before I was acquainted with Professor Wigand's doctrine,' etc., etc.

"WIGAND, in his Essay, Three Cases of Version by External Manipulations, addressed to the Medical Faculties of Paris and Berlin. Hamburg, 1812; p. 35. Wigand's Description of the Birth of Men; Berlin, 1820."

Editors' Table.

Schiller as a Physician.—We are indebted to Dr. Winternitz, of Vienna, one of the contributors to our esteemed contemporary the "*Oesterreichische Zeitschrift für Praktische Heilkunde,* for a very interesting and novel account of "Schiller Considered as a Physician," written on the occasion of the anniversary of his one hundredth birth-day. It is so rarely that this great author is spoken of in a medical capacity that those who have regarded him merely as one of the greatest of tragic and dramatic writers will be glad to have an outline of the article before us.

Schiller commenced the study of medicine in 1775, at Stuttgard, in the academy erected by the Duke of Wurtemberg for the benefit of his officers' sons. For two years he pursued his medical researches with great zest, and wrote a Latin treatise on the "Philosophy of Physiology," which was never printed; in 1780 he composed his essay on the "Connection of the Animal and Spiritual Natures of Man," which was published in 1821 in the *Monatschrift,* of Berlin. In the same year he received the appointment of surgeon to the regiment Augé, in the Wurtemberg army, and performed his duties most satisfactorily and with great fidelity.

Schiller's intimate friend, Scharffenstein, has transmitted to us a ludicrous description of the young surgeon as he appeared on parade in the full glory of his regimentals. His body was squeezed into a uniform cut in the old Prussian style; on each side of his lace were three stiff rolls intended to represent curls; a heavy cue was surmounted by a little military hat, which scarcely covered the crown of his head, and his long neck protruded from a tight horse-hair stock. But the most wonderful part of this costume was the foot and leg attire; the feet were forced into gaiters covered with felt, and two cylinders of great size were compressed into the narrow stockings which were scarcely able to incase his legs, and certainly no additional encumbrances.

Schiller studied medicine rather from compulsion than choice, and finding that it seriously interfered with his literary labors, he determined to abandon it altogether. This course seems to have been forced upon him by the Duke, who, after the publication of the "Robbers," sent for Schiller, and ordered him to confine his writings to medical subjects. Feeling this to be an impossibility, Schiller left his regiment, in consequence of which he was banished from Stuttgard, and compelled to live under an assumed name in the adjacent towns.

Considering his reputation as a poet, dramatist, historian, and philosopher, we can scarcely regret Schiller's withdrawal from our ranks; for, though it may have been our loss in a medical point of view, we have certainly been more than compensated by the varied emanations of his wonderful genius.

Carlyle tells us that during the last fifteen years of his life, Schiller's sufferings were intense, and that on a surgical inspection of his body after death, the most vital organs were found deranged. "The structure of the lungs was in great part destroyed; the cavities of the heart were nearly grown up; the liver had become hard, and the gall-bladder was extended to an extraordinary size."

THE STATE MEDICAL SOCIETY OF PENNSYLVANIA will hold its annual meeting in this city on the second Wednesday in June.

CHANGES IN MEDICAL SCHOOLS.—New York Medical College: Dr. Horace Green has resigned the presidency of the Faculty of the New York Medical College; and the chairs of Physiology and of Obstetrics and Diseases of Women and Children, in the same institution, have been vacated by the retirement of Dr. Austin Flint, Jr., and Dr. E. R. Peaslee.

Dr. W. A. Hammond, U. S. A., has been appointed Professor of Anatomy and Physiology in the University of Maryland, the chair having been resigned by Professor Roby. On account of the death of Professor Frick, the chair of Materia Medica and Therapeutics, in the same college, has been rendered vacant, but has been filled by the appointment of Dr. Edward Warren, of Edenton, North Carolina.

In the New Orleans School of Medicine, a number of changes have been made. Professor Austin Flint, Jr., has been appointed to the chair of Physiology and Microscopic Anatomy, its former incumbent, Dr. Peniston, having been transferred to that of Anatomy. The latter chair was vacated by Professor Beard, who now becomes Professor of Surgery and Surgical Pathology. Another chair, that of Clinical and Operative Surgery, has been established, to which Professor Choppin has been appointed.

MEDICAL STUDENTS AND GRADUATES IN THE UNITED STATES DURING THE SESSION OF 1859-60.—In accordance with our custom, we publish the number of students in attendance at the different medical institutions of this country. It will be seen from the subjoined list, which, although it does not represent all our schools, is, so far as we can learn, correct, that the classes of the last session were, in the aggregate, much larger than those of the previous one:—

	Students.	Graduates.
Jefferson Medical College	630	170
University of Pennsylvania	515	173
Pennsylvania Medical College	130	38
University of New York	411	138
College of Physicians and Surgeons	195	55
New York Medical College	75	20
University of Nashville	401	101
Buffalo Medical College	70	—
Medical Department of Yale College	—	13
Medical College of Ohio	123	32
Virginia Medical College	—	82
Medical College of South Carolina	248	—
Atlanta Medical College	166	56
Savannah Medical College	—	12
Medical College of Georgia	—	62
Alabama Medical College	111	15
University of Louisville	130	38
Kentucky School of Medicine	—	38
Oglethorpe Medical College	60	21
Massachusetts Medical College	195	32
Lind University	30	9
Rush Medical College	101	36
Shelby Medical College	75	9
Cleveland Medical College	70	18
Cincinnati College of Medicine and Surgery	97	30
New Orleans School of Medicine	216	63
St. Louis Medical College	—	52
Missouri Medical College	—	30
University of Maryland	—	50
University of Louisiana	401	113
University of Michigan	185	—
University of Virginia	104	—

STUDENTS IN PHILADELPHIA.—The medical classes in this city, during the past session, were undoubtedly larger than in any other city in the world. The number was 1275, an increase of 112 over the session of 1858–59. The number of graduates was 381. Nearly twice as many students are at present in the city, pursuing their studies at the different private associations, as were here last spring.

MEDICAL STUDENTS IN LONDON AND PARIS.—The number of medical students in London during the past winter was 1063, being 42 more than the previous session. In Paris the number was 988, including 66 for the grade of Officer of Health; of this number 304 were new inscriptions. In 1858, the total number was 1055, embracing 251 new matriculates. It will thus be seen that a much larger number of students was assembled in this city during the last winter than either in the British or French metropolis. The number of foreign students in Paris this year is 48; last year it was only 34.

DENTAL COLLEGES.—At the Annual Commencement of the Pennsylvania College of Dental Surgery, the degree of "Doctor of Dental Surgery" was conferred upon twenty-one candidates. The number of students in attendance at the Baltimore College of Dental Surgery during the past session was seventy, and of these forty-nine were graduated.

PHILADELPHIA COLLEGE OF PHARMACY.—The number of students in attendance at this old and flourishing institution during the last session was 125, being an increase of thirty-seven over the session of 1859–60. The degree of "Graduate in Pharmacy" was conferred upon twenty-nine gentlemen; and the valedictory address was delivered by Professor Thomas.

THE ARMY MEDICAL BOARD OF EXAMINERS, consisting of surgeons C. A. Finley, C. McDougall, and J. M. Cuyler, and assistant-surgeon J. F. Hammond, Recorder, will meet in the City of New York on the first of May, for the examination of assistant-surgeons for promotion, and of those candidates for appointment to the medical staff of the army as may have permission from the Secretary of War.

MAN, MORAL AND PHYSICAL.—Such is the title of a work recently issued by the Messrs. Martien, of Chestnut Street. It is from the pen of the Rev. Dr. Joseph H. Jones, an eminent Presbyterian divine of this city, and is intended to exhibit the influence of health and disease on religious experience. It is our design to revert to it at some future period with a view to an analysis of some of its more striking contents.

MEDICAL JOURNALS.—We have received the first number of the *San Francisco Medical Press*, a quarterly journal, under the editorial management of Dr. E. S. Cooper, who is well known by his varied interesting contributions to our periodical literature. It gives us great pleasure to place this journal on our exchange list.

The *Maryland and Virginia Medical Journal*, the successor of the *Virginia Medical Journal*, now appears simultaneously at Richmond and Baltimore. It is conducted by Dr. James McCaw and Dr. W. C. Van Bibber, who are assisted by an able corps of collaborators.

The *Boston Medical and Surgical Journal* has passed out of the hands of Drs. Morland and Minot, and will hereafter be conducted by Dr. F. E. Oliver and Dr. Calvin West.

The *New York Monthly Review and*

Buffalo Medical Journal and the *American Medical Monthly* have become consolidated, and the combined journal will be issued under the editorial supervision of Dr. J. H. Douglas and Dr. Austin Flint, Jr.

Dr. Trask has retired from the editorial chair of the *Pacific Medical and Surgical Journal*, and he is succeeded by Dr. McCormick, of the army.

PRIZE OFFERED TO THE MEDICAL STUDENTS OF THE UNITED STATES.—Dr. John O'Reilly, of New York, will award a prize of two hundred and fifty dollars for the best essay on "The Anatomy and Physiology of the Animal and Organic Nervous Systems." The essays must be sent to Dr. O'Reilly by the 1st of March, 1861, and the successful competitor must declare on his honor that he has not been assisted in his production by any medical man. The same prize is offered for the best paper on the same subject, the essays to be handed in on or before the 1st of March, 1862.

PRIZES AWARDED BY THE ACADEMY OF MEDICINE OF PARIS FOR THE YEAR 1859.—The Montyon prize for experimental physiology was awarded to M. Pasteur, for his researches on fermentation, and a certificate to M. Ollier for his work upon transplantation of the periosteum. The committee has postponed to next year the examination of two other works on physiology: one by M. Budge on the nervous system, the other by M. Corvisart on digestion.

The Montyon prize for medicine and surgery has not been awarded, but certificates of the value of three hundred dollars have been granted—1st. To M. Béhier, for his book on "Puerperal Fever." 2d. To M. Gallois, for his memoir on "Oxalate of Lime in the Urine, Gravel, and Calculi." 3d. To M. Giraud-Teulon, for his work "On the Principles of Animal Mechanism, or the Study of Locomotion in Man and Vertebrate Animals." 4th. To M. Luschka, for his monograph "On Hemidiathroses of the Human Body." 5th. To M. Legendre, for his essay "On Some Rare Varieties of Femoral Hernia." 6th. To M. Marcé, for his book "On the Insanity of Pregnant Women, those in the Puerperal State, or Nursing." The committee also made honorable mention of several other works.

The Bréant prize for the best mode of curing cholera had fourteen competitors, but was not awarded. The Yecker prize for organic chemistry was granted—1st. To M. Wurtz, for his work "On Glycol and its Derivatives, and recently discovered Oxygenated Alkalies." 2d. To M. Cahours, for his work "On Organic Radicals." The value of the first was seven hundred dollars, of the last five hundred dollars.

PRIZES OF THE PARIS ACADEMY OF MEDICINE FOR THE YEAR 1862.—The subjects for the Alhumbert prizes for the above year are—1st. "Endeavor, by well-conducted experiments, to throw new light upon the question of so-called spontaneous generation." A gold medal, of the value of five hundred dollars, will be awarded to the author of the best work upon this subject, published before the 1st of October, 1862. 2d. "Experimental study of the changes which may be caused in the development of the embryo of vertebrated animals by the action of external agents." The value of this prize is the same as that of the above, and the papers should be sent in before the 1st of April, 1862.

MARRIAGES OF CONSANGUINITY.—Since the publication in our journal of the able and interesting papers on marriages of consanguinity, by Doctor, now Professor, Bemiss, of Louisville, the subject has attracted much attention, both at home and abroad. Last winter the Governor of Kentucky called the attention of the Legislature of that State to it prominently, in his annual message, in the hope that they might be induced to enact some law for the purpose of preventing the formation of such alliances; and from the subjoined remarks, copied from a political journal, it would seem that at least one other State of the Union is interesting herself in a similar manner. If the statements contained in the extract be true, they are enough to make one shudder for the unfortunate offspring of such connections.

"The Ohio Legislature has been passing some laws on the subject of the intermarriage of near relatives. It is said that in Massachusetts, out of 17 families formed by the marriage of cousins, there were 95 children, and in Ohio, in 879 such families, there were 3900 children. It would thus seem that the average number of children is not diminished by such intermarriages, the Massachusetts statistics giving 5½ children to each such marriage. But out of these 95 children, 44 were idiots, 12 scrofulous, and only 37 in tolerable health; while in Ohio 2400 out of 3900 were either intellectually or physically defective. In one case of the marriage of double cousins, nine children, all there were, were idiots of low grade."

AMERICAN MEDICAL LITERATURE ABROAD.—We may be pardoned for copying the following paragraph from our little contemporary, the *Medical News and Library* for April, 1860:—

"The unusual activity of the medical press of this country within the past year, is attracting to our literature a much larger share of attention abroad than it formerly commanded. In looking over our recent files of English journals, we observe that Dr. Simpson, (whose lectures we are republishing in this periodical,) in a recent clinic on ovariotomy, alludes to the late work of Professor Gross, of this city, as the 'most complete work on systematic surgery in the English language.' The elaborate treatise on therapeutics by our fellow-townsman, Dr. Stillé, receives a short but highly complimentary notice in the London *Lancet* of March 10th; and Mr. Parrish's Practical Pharmacy is 'cordially recommended,' by the same periodical, 'as admirably suited to the requirements of the practical pharmaceutist.' The *Dublin Quarterly*, likewise, in a review of Professor Flint's valuable work on the heart, declares its 'most hearty approval of the author's ability, industry, and conscientiousness.'"

DIXON ON THE EYE, AND ALTHAUS ON ELECTRICITY.—These two works, noticed in the review department of the January and March issues of our journal, have been republished, in superior style, by Lindsay & Blakiston, of this city. They both deserve a place in the library of every intelligent physician.

SUICIDE IN MASSACHUSETTS.—We append the subjoined statement from the *New York Observer*, of March 29th, 1860:—

"In the year 1858, 91 suicides occurred in Massachusetts, and the number has not greatly varied for the past five years. For the seventeen years and eight months ending Dec. 31, 1858, 1089 persons have taken their own lives in that State."

PORTRAIT OF PROFESSOR WOOD.—Immediately before the Commencement of the University of Pennsylvania, March 15th, 1860, the graduates of the school presented, through one of their members, J. Campbell Shorb, M.D., of Maryland, the portrait of Professor Wood to the Board of Trustees, with a request that it should be placed in the Wistar and Horner Museum. The addresses delivered on the occasion have been published in pamphlet form, and will be read with interest by the profession. We extract from that of Dr. Shorb the subjoined passage:—

"The picture now stands before you. Of its artistic merits, of its truthfulness in delineating those loved and familiar features, we shall, of course, say nothing. It suffices that it meets with the approbation of its great original, and with this are we content. Our gratitude has not offered this tribute in the fear that time or oblivion would erase from the recollection of the medical world the name or mighty services of Dr. Wood. His name—his genius—is immortalized in his works, monuments "more lasting than brass," more durable than the lights and shades on yonder canvas. We have offered it, because it is most richly deserved, by every claim that moral worth, intellectual splendor, and highest professorial distinction, that unremitting zeal for our happiness and success, can have upon our veneration and gratitude "

The reply on behalf of the Board was made by Dr. La Roche, and abounds in many flattering but well-deserved allusions, expressed in chaste and glowing language, to the retiring Professor.

We give the remarks of Professor Wood in full:—

"When the heart is full, it is not always easy to command either our thoughts or the expression of them; and I am at a loss for words to say how much I am affected by your estimation of my character and services. I do not, however, wish it to be supposed that I consider myself entitled to the commendation which has been bestowed upon me. I am well aware how much allowance must be made, in reference to the sentiments of the class so glowingly expressed by their eloquent representative, for the warm and generous feelings of youth, and in reference to the approving remarks of the gentleman who spoke last, for the natural exaggerations of a friendship so long and so intimate as that which has existed between him and myself. Yet, I will not deny that I have done much hard work in the course of my life, and that, in doing it, I have endeavored to be guided by a sense of duty, and to aim at objects higher than those of a purely selfish character. Perhaps I may be allowed to draw from my experience a lesson, which may not be without its value to the younger among my hearers. One of the highest gratifications of my whole life, whether in its progress, or in a retrospect of the past, has been that derived from labor in the accomplishment of what I conceived to be useful ends. Let me, therefore, impress on you the importance to your own happiness, even in this world, of engaging energetically in useful labor, such as may be in accordance with your convictions of duty. Twenty years hence, should you follow this advice, you will, I confidently assure you, rejoice in having preferred a life of hard work directed toward noble objects, to one of idleness or self-indulgence.

"But I cannot leave this subject, after listening to the flattering compliments lavished on me, without confessing to you that I am conscious of many and great deficiencies; that I have let many opportunities of being useful escape, of which I ought to have availed myself; that I have left undone many things which I ought to have done, and, I fear, have done not a few things which would have been better left undone; that, in fine, in my course of life there has been much occasion for forgiveness from that Being, from whom alone forgiveness can come.

"To turn to the portrait which is the occasion of the present meeting, I cannot but feel very highly gratified by knowing that it is to be placed by the side of the portraits of those great men who founded and have supported this school, that, whenever you or your successors may walk through the splendid museum in which it is to be deposited, my remembrance will be called up in the mind in association with that of my illustrious predecessors. But, my friends, in a comparatively short period of time, the colors of these pictures will fade; in a few centuries the canvas itself will probably fall into dust, and perhaps the very names of these eminent persons may exist no longer in the memory of man. One recollection, however, will remain. The impression made upon my heart by your kindness will continue, I assure you, unimpaired throughout what may be spared to me of life; and, when life is passed, I sincerely hope that I may be permitted to bear it with me into eternity.

"Allow me once more most heartily to thank you, and to offer my sincere wish that you may enjoy long and prosperous lives, that all your just hopes may be realized, and all your noble aspirations gratified. Farewell."

Dr. Wood, it is understood, sent his resignation formally to the Board during the latter part of April. Early in the summer he contemplates leaving Philadelphia for Europe, to be absent about two years. We need hardly add that we most cordially wish him health and happiness during his foreign travels, and a safe return to his home.

DR. W. T. G. MORTON, OF BOSTON.—This gentleman has been in Philadelphia for some time past, endeavoring to induce the profession to recognize his claims as the discoverer of the anæsthetic effects of ether, and it affords us pleasure to state that his efforts have been completely successful, nearly all the respectable members signing the testimonial. The following preamble and resolutions were unanimously adopted at a meeting of the profession, on the twenty-sixth of March last, Dr. Wilson Jewell being in the chair, and Dr. T. H. Bache acting as secretary:

Whereas, after innumerable trials, made during the last fourteen years, it has been established to the satisfaction of the world, that the inhalation of ether may be safely employed for producing insensibility to pain;

And whereas, the attention of the medical profession, and through it of the public generally, was directed to this fact by Dr. Wm. T. G. Morton, of Boston, who first practically demonstrated that ether may be safely used by inhalation for annulling pain, in the Massachusetts General Hospital, where, on the 16th of October, 1846, a severe surgical operation was successfully performed by the late Dr. John C. Warren, without pain to the patient, while under the influence of ether, administered by Dr. Morton;

And whereas, our National Government, while admitting the claims of Dr. Morton, has failed to reward him for this great service to his country and to humanity:

Resolved, That in the opinion of this meeting, the world is indebted to Dr. Morton for having practically proved the value and safety of ether as an anæsthetic agent, and that he is, therefore, entitled to the lasting gratitude of mankind.

Resolved, That we cordially recommend to our fellow-citizens the "National Testimonial Fund," lately commenced in Boston and New York in behalf of Dr. Morton, and that we will do all in our power to influence them to subscribe to the same.

Resolved, That for the purpose of facilitating the subscriptions, a copy of these resolutions, duly authenticated by the officers of this meeting, be furnished to Messrs. Brown, Brothers & Co., the receivers for this city, together with such other documents in explanation of the Testimonial as may be approved by the officers of this meeting.

VETERINARY SCIENCE IN EUROPE.—We are glad to perceive that Queen Victoria was induced last year to grant a charter to the veterinary surgeons of Great Britain, constituting them a legally recognized profession. This desirable object was brought about chiefly, it would seem, through the influence and exertion of Mr. John Gamgee, one of the professors in the New Veterinary College of Edinburgh. From the *Edinburgh Veterinary Review and Annals of Comparative Pathology*, a quarterly journal, the January number of which is now before us, we learn that thirty-nine students are in attendance at the new college, and the journal itself affords evidence of being conducted with unusual spirit and ability. We see that Edinburgh has a veterinary instrument-maker, and a firm which puts up veterinary medicine chests, accompanied by a "treatise and table of doses." It has also recently issued the following works on the subject: "The Veterinarian's Vade-Mecum," by Professor John Gamgee;

"Veterinary Medicines; their Actions and Uses," by Finlay Dun; "Stable Economy," by John Stewart; "Advice to Purchasers of Horses." In our Periscopic department will be found a short extract on emboli in the horse, from the January number of the *Edinburgh Review*, which will, we doubt not, interest many of our readers.

We trust that the time is not distant when the people of this country shall become thoroughly aroused upon the subject of veterinary medicine and surgery; a subject of the deepest interest to the agriculturist of the United States, and to all humane and enlightened citizens. Every physician should take a personal interest in the matter, and do all he can with the farmers and stock-growers in his neighborhood to promote the establishment of veterinary schools.

CHAIR OF SURGERY IN THE UNIVERSITY OF GLASGOW.—The chair of surgery in this ancient institution, rendered vacant by the death of the lamented Lawrie, and temporarily filled, after the demise of that distinguished gentleman, by Dr. George H. B. Macleod, who earned so much reputation in the East, and who is so well known among us by his "Notes on the Surgery of the Crimean War," has been conferred upon Mr. Lister, of Edinburgh, a son-in-law of Mr. Syme. The defeat of Mr. Macleod, who was so admirably qualified for the position, was occasioned on political grounds. Mr. Lister is said to be a young man of high professional attainment and promise.

ACUPRESSURE.—This novel process for arresting hemorrhage in surgical operations appears to be steadily gaining favor with our British brethren. We have not ourselves had an opportunity of trying it, but shall certainly do so at the first favorable moment. We republish, in another part of the REVIEW, an interesting paper upon the subject, which we have just received from our distinguished confrere, Professor Simpson, the inventor of the operation.

JUST SENTIMENTS.—The editor of the *American Medical Gazette*, in speaking of the "editorials" of a certain new journal, holds the following just sentiments, which cannot be too strongly recommended to the consideration of our confreres:—

> "When he has been longer in the harness he will become more tolerant and forbearing, and will testify with Cotton Mather, that 'slander and detraction are sparks, which, if let alone, will go out of themselves;' and he will let his 'enemies' slide. If he expects to retain the position he holds without a conflict with unscrupulous rivals, he looks for better luck than his neighbors, for this is a tax which even laudable ambition must pay. In a few years more he will be *skinned* so often, that, like the eel, he will become *used to it*, and be less sensitive to assaults on himself when his editorial assaults on others will become moderated. 'Always use soft words, they cost nothing,' is the best motto for a journalist, *if* he can practice it."

PARISIAN DOINGS.—Dr. Robert Battey, of Georgia, a correspondent of the *Atlanta Medical and Surgical Journal*, writing from Paris, under date of January, 1860, states that Jobert totally ignores the American operation for the cure of vesico-vaginal fistule, and relies upon a process of his own. The surgeon of the Hôtel-Dieu is described as a haughty, ill-natured man, of middle age, formerly handsome, and still good looking. "If you chance, momentarily, to obstruct his light, he demands, in a stern tone, 'Get out of my *day!*' and lectures you soundly for your impudence. Woe to the unlucky interne who gets in his light or jostles his elbow." * * * "M. Jobert, as he sits at his operating table, and growls, and cuts, and scolds, does naturally not make a very favorable impression upon strangers; but it must be conceded that he is an expert operator in general surgery."

At Laraboisiere, Chassaignac treats fractures, after the subsidence of inflammation, nearly altogether with the plaster bandage. A roller is first applied, and then thickly smeared over with a cream of plaster of Paris, which thus forms a firm, immovable support for the limb.

"I was surprised," says Dr. Battey, "to hear from an eminent Parisian surgeon the caustic remark, 'M. Ricord is but a syphilitic fungus grafted upon the Hospital Midi!'" The French syphilographer has evidently got enemies.

The latest novelty in Paris is the attempt, on the part of two German physicians, Moncel and Ruhmkorff, to teach French surgeons how to illuminate the mucous outlets of the body by the aid of luminous tubes, transmitting a current of electric light. The subject is now before the Academy, to be reported upon by M. Cl. Bernard, the eminent physiologist.

NEW ORLEANS MEDICAL NEWS AND HOSPITAL GAZETTE.—The April number of this journal, edited by Drs. Brickell and Fenner, Professors in the New Orleans School of Medicine, seem to be very wrathy respecting the short article penned by the senior editor of the REVIEW for March, 1860, and entitled "Southern Medical Students and Southern Medical Schools." They declare, not in so many words, it is true, but by implication, that they are ready to die in defense of their noble institution, the establishment of which has cost them so much labor, and anxiety, and treasure, and that they will permit no one to cast upon her any imputation, even of the most indirect character. All this is very right, and just, and valiant. Keep your school pure and chaste before the public and the medical profession. Let her be, like Cæsar's wife, above suspicion. To all such sentiments we cordially subscribe. But why, gentlemen, are you abusing the REVIEW, and calling it by hard names? In the article to which you have taken such exception, the great sin which we committed, in your immaculate eyes, was that we did not include you in the same category as the University of Louisiana, in her disclaimer, made through our colleague, Prof. Richardson, respecting her supposed interference in the late stampede in this city. It is here that the shoe pinches; "*hinc illæ lachrymæ.*" We should have been rejoiced if we could have extended to your school a similar courtesy. But we could not; for, although we are not able to assert, from any official documents in our possession, that you sent any telegraphic communications to the medical students of this city, "tendering sympathy and a cordial welcome to your school," yet we were perfectly sure that you had sent such a dispatch to New York, and we had, therefore, a right to assume that you would have been very glad to perform a similar service for the Philadelphia students if they had addressed you upon the subject, which, however, judging from your silence, we conclude they never did. Be this as it may, our ethics are, that when a man does a wrong, he is equally guilty whether he commits the wrong in one place or in another, upon one person or upon another. The fact that the Faculty of the New Orleans School of Medicine sent a dispatch to New York induced us to exclude her from the benefit of the exculpation which we so gladly extended to the University of Louisiana. Personally, we have no preference for either institution; we have kind friends in both, and we wish them both well; but we could not, we must confess, place them upon the same footing in a matter in which one was observing a dignified silence, and the other catering to public excitement.

In order that our readers may fully understand the position of the New Orleans School of Medicine in regard to the late stampede, we extract the following passages from the April number of the *New Orleans Medical News and Hospital Gazette*:—

> "1st, then: The only connection the New Orleans School of Medicine ever has had with the seceding students at the North was in her receiving a dispatch from New York City, signed by the 'Alabama Committee,' saying that the Southern students *contemplated* leaving New York, that they had paid for their tickets, and desiring to know on what terms she would receive them; to which dispatch the Faculty sent the following reply:—
>
> "'The Faculty of the New Orleans School of Medicine deeply regret that you have found yourselves under the necessity of leaving the school to which you are attached. They will receive you on condition that you pay for matriculation and graduation fees.'
>
> "2d. The Faculty of the New Orleans School of Medicine have *never* had, *at any time*, *any* communication, of *any* kind whatsoever, with *any* student of medicine, attached to or seceded from *any* school in Philadelphia."

After giving the preambles and resolutions adopted at a meeting of the New Orleans School of Medicine and of the University of Louisiana, the editors of the *New Orleans Medical Gazette* ask the following questions:—

> "Has the *Review* been informed by its correspondent whether *either* of the Faculties here ever 'opposed' these proceedings, either publicly or privately?
>
> "Is the *Review* silly enough to believe that the classes of the schools here or elsewhere, could thus freely throw open the doors of the institutions without the positive approbation of the respective Faculties?"

From the last paragraph it is evident that the editors of the *New Orleans Medical Gazette*, who are also, it will be borne in mind, professors in the New Orleans School, directly indorse the act of their pupils, commending them for it, as well as their own Faculty act. We will not be so uncharitable as to suppose that they instigated this act on the part of their students, and yet such a conclusion is with difficulty avoided. The idea that a school is *necessarily* responsible for the acts of its classes, as expressed at public meetings, is simply absurd.

The editors are disposed to taunt us for our imperfect account of the Philadelphia stampede. All history is, to some extent, a fiction, and in attempting to write that of the stampede, we only stated what, at the time, we supposed to be true, and what has not since been successfully contradicted in any of its material points.

To CORRESPONDENTS.—Communications have been received from Drs. Fenner, Gordan, Klugé, Hargis, Bland, Reeve, and Lopez.

NECROLOGICAL NOTICES.

CHARLES FRICK, M.D.—It is our melancholy duty to announce the death of this amiable, excellent, and intelligent physician, at the early age of thirty-seven, from diphtheria, at his residence in Baltimore, on Sunday, the twenty-fifth ultimo. The disease which thus cut off, in the prime and vigor of his manhood, one of the most promising members of the profession, ran its course with great rapidity, and baffled all the skill and devoted attention of his professional friends and attendants. Tracheotomy was performed upon Dr. Frick about nine hours before dissolution, with, however, hardly any amelioration of his condition.

Dr. Frick occupied, at the time of his lamented demise, the Chair of Materia Medica in the University of Maryland, a position to which he was elevated not quite two years ago, having previously filled a similar office in the Baltimore College of Pharmacy. He was a son of the late Judge Frick, and a nephew of Dr. Frick, the author of a work on Diseases of the Eye, based principally upon the writings of Beer, and other German oculists. He himself published, several years ago, an excellent little work, the result of original observations, on urinary deposits, and a short time before his death he contributed an admirable lecture on diuretic remedies, full of practical value, to the pages of the *Maryland and Virginia Medical Journal.*

Professor Frick was a gentleman of the most genial feeling, of unusual intelligence, cultivated and agreeable manners, excellent colloquial powers, and high professional ambition. He leaves behind him a wife and an only child to lament his untimely loss; a loss which will be deeply deplored by the whole American profession. Personally, we feel as if we had lost a kind friend, the recollection of whose manly virtues and great promise overwhelms us with the deepest sadness.

PITMAN CLEMENS SPENCER, M.D.—In the death of Dr. Spencer, which occurred last January, at his residence at Petersburg, Virginia has lost one of its brightest and most exemplary surgical ornaments, a man of great purity of character, an excellent citizen, and an eminently popular practitioner; one whose name and fame are intimately associated with the medical history of his native State. He was born in Charlotte County, in July, 1793, and was, consequently, at the time of his decease, in the sixty-seventh year of his age. His early educational advantages were, it would seem, very slender; but by energy and industry in after-life he surmounted his deficiencies, and eventually became highly intelligent, not only in his profession, but in general literature and science. Having studied medicine in the office of his brother, he subsequently attended lectures in the University of Pennsylvania, in the time of Wistar and Physick, obtaining the honors of the doctorate in 1818. In 1827 he visited Europe, and, on his return in 1830, finally settled at Petersburg, where he remained up to the time of his death, in the enjoyment of a large practice, his surgical reputation attracting patients from all sections of Virginia, and the eastern and northern parts of North Carolina. He was often called to cases at a great distance. His great forte was in surgery, in which his success was uncommonly flattering. His skill as an operator was striking. He handled the knife with consummate ability, and it was seldom that it deceived him. As a lithotomist, his exploits were remarkable. In 1855, he communicated to the writer of this notice the particulars of twenty-four cases upon which he had operated up to that period, with a loss of only two, or in the proportion of one to twelve. Subsequently he cut five other cases without a single loss. Of such a result any operator might justly be proud. He preferred the bilateral method, with Dupuytren's lithotome caché, having, doubtless, contracted a fondness for the procedure during his sojourn in Paris, where he devoted much attention to vesical diseases and operations. Of lithotripsy he entertained no very favorable opinion, and never practiced it upon the living subject.

But, although Dr. Spencer knew how to use the knife, he never resorted to it when it was possible to avoid it. He had great confidence in the resources of nature, and always felt a just pride in his conservatism, well knowing that it is much more of an honor to preserve a limb than to lop it off. In him were happily blended the good qualities of the physician and the manual dexterity and unflinching eye of the surgeon.

The career of such a man as Dr. Spencer furnishes a bright example for the imitation of the young men of the profession. It shows what, despite of early trials and difficulties, may be achieved by honest industry, and a resolute aim in life, determined to surmount all obstacles, and to make everything bend to the accomplishment of its purposes. He was a gentleman of enlarged and liberal mind: and to him may justly be applied the words of Terence: "Homo sum; humani nihil a me alienum puto."

ROBERT BENTLEY TODD, M.D., F.R.S. —It is with feelings of the deepest regret that we are called upon to announce the death of this distinguished member of our profession, which took place on the evening of the 30th of January, 1860, in the fifty-first year of his age. Dr. Todd was the son of the late Mr. Todd, an eminent professor and surgeon in Dublin, who likewise died in the zenith of professional success, and was born on the 9th of April, 1809. He received his medical education at the Richmond Hospital, graduated in Arts at Trinity College, and became a member of the Royal College of Surgeons in 1831. He immediately moved to London, where he was a perfect stranger, and soon became lecturer on anatomy at the Aldersgate Street School; but he afterwards resigned the post for the same position in the Medical School of the Westminster Hospital. In 1835 he began editing his great work, which first brought him into notice as an author, the "Cyclopædia of Anatomy and Physiology," which was completed more than a year since; and a year subsequently he was appointed Professor of Physiology and of General and Morbid Anatomy in King's College. It was due to his untiring efforts that the King's College Hospital was founded, and he held the position of clinical lecturer in this institution up to within a few weeks of his death, being obliged to relinquish the post on account of his failing health. Dr. Todd always stood in the foremost rank as a physiological investigator, his conclusions being based upon an accurate knowledge of minute structural anatomy; and in 1845, in conjunction with Mr. Bowman, he published the first part of the "Physiological Anatomy and Physiology of Man." After fourteen years of incessant labor the work was completed, having appeared in successive parts, and immediately became the standard authority upon the various subjects treated of. The chapter on the nervous system tended more to give a shape to the affections of this portion of the organism than any other publication previous to the time of its appearance.

As physician to the Western Dispensary and the Royal Infirmary for Children, as well as lecturer at King's College Hospital, Dr. Todd had an ample field for clinical study and teaching, and we need only point to his "Clinical Lectures" to show how good a use he made of his opportunities, not neglecting the study of medicine, while arduously pursuing his physiological investigations. As a clinical teacher, he was clear, forcible, and practical; he was also an accurate diagnostician, and he effected great changes in the ordinary routine practice of medicine.

Dr. Todd was a voluminous author; and taking his works in the order of their appearance or completion, we find that he published in 1843, "Remarks on Gout, Rheumatic Fever, and Chronic Rheumatism of the Joints;" in 1845, the "Descriptive and Physiological Anatomy of the Brain, Spinal Cord, and Ganglions, and of their Coverings;" in 1856, "Clinical Lectures on Paralysis, certain Diseases of the Brain, and other Affections of the Nervous System;" in 1857, Clinical Lectures on certain Diseases of the Urinary Organs, and on Dropsies, and, in connection with Mr. Bowman, the completion of the "Physiological Anatomy, and Physiology of Man;" in 1859, the "Cyclopædia of Anatomy and Physiology;" and finally, in 1860, shortly before his death, "Clinical Lectures on certain Acute Diseases."

The reputation of Dr. Todd will be perpetuated more particularly by his clinical lectures, or, to use the words of the *Lancet*, from which we have gleaned some facts contained in this notice, "Dr. Todd regarded none of his discoveries with more satisfaction than his establishment of the fact of the co-ordinating power of the posterior columns of the spinal cord; and this piece of pure inductive reasoning he had the gratification of finding confirmed of late years by the elaborate experiments of Dr. Brown-Séquard."

Owing to his laborious practice, Dr. Todd was obliged to resign his Chair of Physiology in 1853, and in December last withdrew from the hospital, of which he had so long been a shining ornament. His death was very sudden; having been called to Wales, on his return he felt ill, but thought he could prescribe for a few urgent cases. At two o'clock, on the thirtieth of January, he was taken in his consulting room with hemorrhage from the stomach, which recurred so severely as to occasion his death early in the evening. The friends of Dr. Todd, and the staff of the King's College Hospital, have determined to erect a statue to his memory, and to found a Todd Clinical Gold Medal as a prize.

Bi-Monthly Bibliographical Record.

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FOREIGN.

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THE

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

JULY, 1860.

Analytical and Critical Reviews.

Art. I.—*A Practical Treatise on Fractures and Dislocations.* By Frank Hastings Hamilton, M.D., Professor of Surgery in the University of Buffalo, Surgeon to the Buffalo Hospital of the Sisters of Charity, etc. etc. Illustrated with Two Hundred and Eighty-nine Wood-cuts. 8vo., pp. 757. Blanchard & Lea: Philadelphia, 1860.

The medical literature of our country will be proud to hail the appearance of this work as a contribution of no ordinary value. The able, learned, and industrious author has performed his task with great fidelity, and his professional brethren everywhere will gladly accord to him the highest praise for having placed at their command a treatise to which they may constantly refer, in the hour of doubt and perplexity, as a safe and ready guide. From the great labor and time bestowed upon its preparation, we had been led to anticipate a very thorough and elaborate monograph, and an attentive perusal of its pages has satisfied us that our expectations have been fully realized. The work is by far the most complete disquisition on fractures and dislocations in the English language, and, with the exception of that of M. Malgaigne, indeed the most complete in any language. We are rejoiced that this task has been reserved for an American surgeon, and doubly rejoiced that the task has been so well and so creditably executed.

Until the appearance of the present treatise our literature was sadly deficient upon the subject of fractures and dislocations. The work of Boyer, edited by Richerand, translated by Farrell, and reissued in this country early in the present century, under the supervision of Dr. Hartshorne, of this city, had long been obsolete, notwithstanding its great merit as a full and systematic monograph at the time of its publication.

The admirable treatise on dislocations and on fractures of the joints, by Sir Astley Cooper, was never intended to cover the entire surface of those important branches of pathology and practice; and as to the productions of Amesbury and Lonsdale, they certainly had no claim to any exalted position in medical literature, that of the former being designed chiefly to illustrate some peculiar methods of practice, while that of the latter was anything but full or circumstantial in its details. The German language possessed the work of A. L. Richter, entitled "Theoretisches Praktisches Handbuch der Lehre von den Brüchen und Verrenkungen der Knochen," issued at Berlin in 1828, and accompanied by a folio volume of illustrations; but in consequence of our ignorance of that language, the treatise found but few readers on this side of the Atlantic. The treatise of Mr. Robert M. Smith, of Dublin, on fractures in the vicinity of the joints, and on certain forms of accidental and congenital dislocations, was a most valuable monograph, replete with original observations and practical suggestions; but it failed to supply the great void which had so long existed in our literature upon the subject under review. It was not until a few years ago that an attempt was made to fill this gap in a manner at all commensurate with the wants of the age, or the actual demands of science and humanity. Malgaigne, in 1847, published the first volume of his great work on fractures and dislocations, the second being issued eight years afterwards, the whole comprising nearly two thousand pages, with a folio atlas of plates. Of this treatise, which impartial criticism must regard as one of the most valuable contributions to surgical science in the nineteenth century, the portion relating to fractures was ably translated by Dr. Packard, of this city, and published by Messrs. Lippincott & Co. early in 1859. Whether the other portion will meet with a similar favor is somewhat doubtful, especially now that the work of Dr. Hamilton has supplied the want that had previously existed upon the subject. Very recently a treatise on fractures appeared in Germany, from the pen of Dr. Gurlt, comprising a more complete view of the subject than any other work that has yet been issued in that language. We must not omit here to mention also the splendid volume on "Dislocations and Fractures," lately published by Mr. Joseph Maclise, of London, an imperial folio, accompanied by numerous plates illustrative of the various forms of these accidents, and executed in the highest style of the art. The remarks upon anatomy, pathology, etiology, and treatment of the lesions delineated in the plates are, throughout, characterized by good sense; but the work, nevertheless, fails to come up to our ideas of what such a treatise ought to be at the middle of the nineteenth century. As a book of reference, in cases of sudden emergencies, it is invaluable.

From the foregoing remarks, it will be perceived that the work of Professor Hamilton has appeared at a most opportune period, and it requires no prophetic vision to foresee that it is destined to maintain its place, for a long time to come, in the affection and esteem of the profession; enriched, as it doubtless will be, in each succeeding edition, by new matter and by such changes in its arrangements as the exigencies of the science may demand. The work of Malgaigne, even if the second portion were as well translated as the first, would not be able to compete with it, as it is deficient in those references to, and details of, American practice which form such striking features in the treatise of Dr. Hamilton, who has spared no pains to render his labor exhaustive, gleaning, like an ant, his materials from every accessible source.

Dr. Hamilton divides his work into two parts, the first being occupied with fractures, and the second with dislocations. Thirty-five chapters, running through four hundred and eighty-four pages, are devoted to the first of these topics, and twenty-six to the latter. Two hundred and eighty-nine well-executed wood-cuts, many of them original, are interspersed through the text, and add greatly to the merit and value of the work. The distinguished publishers have performed their part of the enterprise with their accustomed taste and liberality, and the mechanical execution of the work, considered as a whole, will compare favorably with the best productions of the British press of the present day. Finally, the work is appropriately inscribed to Dr. Mott, as a testimony of esteem on the part of the author for a man who has done so much to ennoble American surgery, and for whom we all cherish such profound respect and veneration.

It is not our intention to present anything like a formal analysis of this work; to do so, would carry us far beyond the limits which we have assigned to us, to say nothing of the fact that it would be a matter of supererogation, inasmuch as no intelligent practitioner will be likely to be without a copy of it for ready use. No library, however extensive, will be complete without it. We shall, therefore, content ourselves with some passing comments upon such topics as may impress us particularly either on account of their extraordinary force and value, or on account of their novelty, or supposed imperfections.

The author retains the old distinction of fractures into compound and complicated, meaning, after the fashion of other writers, that in the former there is an external wound communicating with the ends of the fragments, while in the latter there may be an additional injury, as a dislocation or a severe lesion of the soft structures. To our own mind such a division has always appeared unnecessary, and even unscientific, since the whole subject might be very appropriately discussed under the head of complicated fractures, as has been done by Malgaigne and some of our writers upon general surgery.

The manner of examining a patient supposed to be laboring under fracture, is dwelt upon by Dr. Hamilton with special emphasis. We shall extract some of his remarks upon the subject, hoping thus to impress their importance more fully upon the attention of the reader. Long experience has convinced us that there are few surgeons, however capable in other respects, who are competent to examine a broken limb in a proper and unexceptionable manner.

> "I cannot dismiss this subject without calling attention to the necessity of exercising care and gentleness as well as skill in the examination of broken limbs. Nothing, in my opinion, betrays a lack of judgment as well as of common humanity on the part of the surgeon, so much as a rude and reckless handling of a limb already pricked and goaded into spasms by the sharp points of a broken bone. It is not enough to say that such rough manipulation is generally unnecessary; it is positively mischievous, provoking the muscles to more violent contractions; increasing the displacement which already exists, and not unfrequently producing a complete separation of impacted, denticulated, transverse, or partial fractures, which can never afterwards be wholly remedied; augmenting the pain and inflammation, and not unfrequently, I have no doubt, determining the occurrence of suppuration, gangrene, and death."

In speaking of the repair of broken bones, at page 47, the author advocates the idea that the ends of the fragments sometimes unite by "direct reunion" of the broken surfaces, without the intervention of any reparative material, in the same manner as the soft tissues occasionally unite. He adds that this mode of repair is not unfrequent in the spongy bones and in the articular extremities of the long bones, especially in cases of impaction, or where one fragment is forcibly driven into the other, as in certain fractures of the neck of the humerus and of the femur. For ourselves, we cannot believe in the possibility of such an occurrence. To our mind, indeed, the very conception of it is an impossibility. Whenever a broken bone is thoroughly and completely consolidated, the connecting bond must always be of an osseous nature. We might as well believe that two pieces of tin could be effectually soldered together without the agency of lead, as that a fracture could be properly repaired without the intervention of new osseous matter.

The chapter on the "General Treatment of Fractures" is replete with judicious precepts, and is worthy of attentive study. The author strongly insists upon the importance of care and gentleness in the handling and examination of a broken limb, the transportation of the patient, and the removal of the clothing, with a view to a thorough diagnosis of the case.

> "Rude or awkward manipulations, by which needless pain is inflicted, are not simply acts of wanton cruelty, but they are sources, and I think I may say fre-

quent sources, of inflammation, suppuration, and gangrene. Here, as in all the subsequent handlings, everything should be done slowly, thoughtfully, and systematically. Yet it is difficult to state the precise manner in which the surgeon ought to proceed. Much will depend upon the circumstances of the case, something upon one's natural tact, and upon the amount of experience, but more, I think, upon natural kindness of heart, and social education. The man of refinement and sensibility will know instinctively how to proceed, and needs no instruction. They who lack these qualities can never learn, and it would be quite useless to undertake to teach them. I sincerely wish such men as these latter would find some more suitable employment than the practice of a humane art."

We are glad to find in Dr. Hamilton so decided an advocate for the early coaptation of fracture. He declares that broken bones ought, as a general rule, liable to few exceptions, to be restored to their natural relations within as short a period as possible after their occurrence; a precept in which, we are quite sure, every judicious surgeon will fully concur. We do not find any allusion, in the otherwise excellent directions of the author, to the use of anæsthetics in the examination and adjustment of fractures in persons of a nervous, excitable temperament, or where the parts, in consequence of the violence of the injury to which they were subjected at the moment of the accident, have become exquisitely tender and sensitive, so as to render manipulation a source of great suffering. We have ourselves derived great assistance from the administration of ether and chloroform under such circumstances, and we can therefore strongly recommend the practice to the consideration of our readers.

The author does not seem to entertain a very high estimate of the immovable apparatus in the treatment of fractures, and his remarks upon the subject are, perhaps, in the main quite correct. Its employment certainly demands much more care and judgment than fall to the lot of most private practitioners. In the hospital, where a constant surveillance may be exercised, it is less objectionable, but even here it should not be resorted to without due deliberation. We are ourselves an advocate of its use under certain restrictions, one of the principal and most cogent of which is all absence of inflammatory excitement and swelling in the soft parts. Hence we are opposed to the practice of Mr. Erichsen and other surgeons, who have recourse to the treatment a few hours or days after the occurrence of the injury. The following extract will serve to show the author's views upon the subject under discussion:—

"The cases, then, to which this apparatus seems to be adapted are: a few examples of transverse or serrated fractures in which the bones have not become displaced, and in which little or no swelling is anticipated; and in certain fractures which were originally more complicated, but in which a partial union, and the subsidence of the inflammation, have reduced them to a more simple condition; and especially in cases of delayed union. If now the dressings are applied carefully, the bandage being only moderately tight, and a portion of the extremity of the limb is left uncovered so that we may observe constantly its condition, and at proper intervals the apparatus is opened completely in order that we may subject the whole limb to a thorough examination; in such cases as we have now indicated and with such precautions, we admit that the 'apparatus immobile' constitutes an invaluable surgical appliance, and one of which no surgeon can well afford to be deprived."

Dr. Hamilton speaks in a condemnatory manner of the practice of treating fractures simply with the roller, without the aid of splints and extending apparatus, originated by Radley, of England, and so constantly and warmly advocated by Dr. Dudley, of Kentucky, pronouncing it as irrational, and as, in his opinion, unworthy of confidence. He regards as still more unscientific, and even absurd, the practice of Jobert, of Paris, who discards both bandages and splints in the treatment of all, or nearly all, fractures of the long bones, using merely extension to maintain apposition of the ends of the fragments. To these sentiments we most cordially subscribe, satisfied that the practice here referred to is not only irrational, but wholly unwarrantable. The "Dudley treatment," as it was wont to be called in the West and Southwest, has been productive of immense mischief, having been a cause not only of frequent deformity, but also of loss of limb, and of not a few suits for malpractice.

The following paragraph relates to an important subject, not perhaps sufficiently understood and acted upon by practitioners :—

"The rule generally laid down by surgeons, that we should at once close the wound in compound fractures, with sutures and adhesive straps if necessary, or with bandages, is far too absolute. This practice will do when there is no great contusion or extravasation of blood, but if blood is flowing, it is much better to leave the wound open so as to permit it to escape freely; and if the severity of the injury warrants the supposition that much inflammation is to ensue, the danger of gangrene is greatly lessened by thus allowing the opening to remain as a channel of exit for the inflammatory effusions."

The subjects of "Delayed and Non-union of Broken Bones" are well discussed, the author having freely availed himself, in this portion of the work, of the monograph of Dr. Norris, of this city, "On the Occurrence of Non-union after Fractures," which he justly considers as the most complete and reliable in any language. He agrees with Walker, Lonsdale, Liston, Hammick, Malgaigne, and others, in regard to the great rarity of this accident, and states that in his own practice he has noticed it much oftener in the humerus than in the femur, which was the bone most frequently involved, in the statistics of the Philadelphia surgeon. We have ourselves seen this non-union in nearly equal proportion in both of these pieces.

The treatment of ununited fracture has engaged a great deal of attention, and has been a prolific source of discussion and controversy. Physick, as is well known, was partial to the seton, which he was the first to employ in a case of broken humerus early in the present century, although it had already been suggested by Winslow, in 1787. The author, in his summary of the treatment of this accident, speaks of it as an "extreme measure." "If," says he, "the fracture is not in the femur, and as an extreme measure, employ the seton." We do not, we confess, perceive any necessity for such excessive precaution. If properly used, we believe that the seton is one of the most harmless, as it is certainly one of the most efficient, modes of treatment that can be adopted in ununited fractures, no matter where situated. It is easy to perceive that mischief may follow its injudicious application, and we have got the statistics of Dr. Norris to show that its employment has occasionally been attended by violent inflammation, extensive suppuration, erysipelas, and even death; but such accidents will rarely, if ever, happen, if proper attention be paid to the state of the system prior to the introduction of the seton, and, above all, if care be taken not to let it be retained in the parts beyond a few days.

Dr. Hamilton is of opinion that resection is applicable only to superficial bones, and in cases of overlapping. We would say emphatically that the operation is applicable to all cases of ununited fractures, whatever bones they may implicate. When the ends of the fragments have become much accuminated from absorption, or when they are connected by dense fibrous tissue or by a false joint, especially when all the more ordinary means have failed to afford any benefit,—the practitioner has no alternative; he must resect or amputate, or abandon the case as hopeless. Who would hesitate about a choice?

In delayed union, or, more properly speaking, retarded consolidation, the surgeon has at his command a great variety of measures, all, if aided by appropriate constitutional treatment, more or less efficient. Among these are friction of the ends of the fragments, acupuncture, compression, blisters, tincture of iodine, electricity, the insertion of ivory pegs, as advised by Dieffenbach, subcutaneous puncture, and perforation of the extremities of the broken pieces—an operation first suggested by Dr. Brainard, of Chicago. These methods of treatment are easy of execution, free from danger, and, either singly or combinedly, generally adequate to a cure, although much perseverance is often necessary in their use. In cases, on the contrary, of long standing, particularly where the ends of the fragments are incrusted with adventitious matter, excessively indurated, or sharp and rounded, little if any benefit is to be expected from their employment. We do not except from this remark the vaunted plan of Dr. Brainard; for our own experience, and a careful examination of the published cases of that gentleman, said to have been treated in this way, convince us that it is only in cases of retarded reunion that it is entitled to any of the credit that has been claimed for it by its author.

The chapter on "Bending and Partial Fractures of the Bones" is one of the most interesting and valuable in the book, and deserves an attentive perusal. It is interspersed with an account of the author's own experiments and observations upon these affections; a circumstance which not a little enhances the reader's confidence in his opinions and practice. If space permitted, we should gladly transfer some of his remarks and conclusions.

It would occupy too much of our time to examine, with a view to just criticism, all that Dr. Hamilton has written upon fractures of particular bones; we have bestowed upon this portion of the work an attentive perusal, and have risen from our task with the conviction that nearly all these topics have been treated with consummate ability, every chapter and section being characterized by great diagnostic tact and sound practical sense.

Under the head of "Fractures of the Shaft of the Femur," the author introduces the subject of adhesive plaster bands as means of making permanent extension, declaring that they deserve a decided preference over all other methods at present known to surgeons; an opinion in which every practitioner of experience will heartily concur. We have ourselves long employed this method, and can therefore speak most unequivocally in its favor.

Dr. Hamilton appears to be in doubt as to the inventor of this plan of treatment. A thorough investigation of the subject leaves no doubt in our own mind that it was first described by Dr. Gross, in his work on the "Diseases of the Bones and Joints," published in this city in 1830. From the subjoined extract from that work, it will be perceived that he speaks of it as having first witnessed it in the practice of his early preceptor, Dr. Swift, of Easton, Pennsylvania.

> "In complicated fractures of the leg, it not unfrequently happens that the soft parts about the ankle are so much contused, or otherwise injured, as to render it impossible to employ the usual extending bands. When this is found to be the case, the difficulty may usually be remedied by applying along each side of the leg, as high up as the seat of the fracture will admit, a piece of strong muslin about two feet and a half in length, two inches and a half in width, and spread at one of its extremities with adhesive plaster. The part which is applied upon the limb should be confined by three or four circular strips, so as to keep it firmly in its place, and equalize the extending power. The free extremities of the extending bands should then be tied under the sole of the foot, and be secured to the block or bar which connects the lower ends of the splints. This

mode of making extension, for which we are indebted to the ingenuity of my friend and preceptor, Dr. Swift, of this place, will, I am fully persuaded, be found highly useful in practice, and satisfactorily obviate the inconveniences to which I have just alluded."

It may be added that the work of Dr. Gross here referred to, although published within less than three years after he commenced the practice of medicine and surgery, must have been well known to the American profession, as it was used as a text-book upon diseases of the bones and joints in some of our schools, especially in some of those in New England, and we may therefore legitimately conclude that the above extract must have attracted more or less attention on the part of our surgeons; a circumstance which probably accounts for some of the claims that have since been set up in other quarters. We may also add, that in a conversation which we have recently had with an eminent practitioner of this city, Dr. Samuel Jackson, formerly of Northumberland, he informed us that he had resorted to the use of adhesive straps as a means of extension, in a case of compound fracture of the leg, as early as 1814. He, however, never published anything upon the subject, and the consequence was that the attention of the profession was not called to it until after the appearance of the work of Dr. Gross.

Twenty-two pages or more are devoted to the prognosis of intra-capsular fracture of the femur, or, in other words, to the adjudication of the question of the possibility of osseous union in this variety of accident—the author passing in review, with much caution and apparent impartiality, the most prominent facts that have been published upon this interesting and still vexed subject, both at home and abroad; and he finally comes to the conclusion that, although such an event is possible, yet he has himself never seen a specimen which, upon a thorough examination, unequivocally established its existence. He asserts that the various preparations that have been exhibited in Europe and America, as supposed illustrations of intra-capsular fractures, were either no fractures at all, or that if they were, they extended at the same time into the bone beyond its capsule; or, finally, that they were merely examples of morbid alterations consequent upon the effects of old age, arthritic disease, or what has been termed interstitial absorption or atrophy of the cervical portion of the bone. A careful perusal of the testimony adduced by the author satisfies us that his conclusion is perfectly legitimate; and we may add, that we have ourselves never seen anything tending to contradict it. While we believe that nothing is impossible, philosophically speaking, we assume that an osseous union of a fracture of the neck of the femur entirely within the capsular ligament is one of the rarest occurrences imaginable, and one which has certainly not yet been satisfactorily determined by anything that has been shown or written upon the subject.

Of the large number of apparatuses described by Dr. Hamilton for the treatment of fractures of the thigh, there is not one, according to our experience, that is really altogether unobjectionable. The construction of such a contrivance, one that shall thoroughly and readily fulfill all the indications presented in oblique fractures of the femur, is still a desideratum. That this is the fact, is shown by the difficulty that the practitioner experiences in keeping the ends of the broken bone in apposition, and by the circumstance that in nearly every case, no matter how skillfully and carefully treated, there is more or less shortening of the corresponding limb. If this does not teach us the imperfection of these appliances, what, in common sense, it may be asked, does?

The following quotations bear so closely upon this subject that they cannot fail to be of the deepest interest to the reader, to say nothing of the consolation which they tend to afford to those unfortunate members of the profession who are obliged to undergo the pains and penalties of suits for malpractice.

> "In conclusion," says Dr. Hamilton, "I wish to say briefly, that in view of all the testimony which is now before me, I am convinced—
>
> "First. That in the case of an oblique fracture of the shaft of the femur occurring in an adult, whose muscles are not paralyzed, but which offer the ordinary resistance to extension and counter-extension, and where the ends of the broken bone have once been completely displaced, no means have yet been devised by which an overlapping and consequent shortening of the bone can be prevented.
>
> "Second. That in a similar fracture occurring in children, or in persons under fifteen or eighteen years of age, the bone may sometimes be made to unite with so little shortening that it cannot be detected by measurement; but whether in such cases there is in fact no shortening, since with children especially it is exceedingly difficult to measure very accurately, I cannot say.
>
> "Third. That in transverse fractures, or oblique and denticulated, occurring in adults, and in which the broken fragments have become completely displaced, it will generally be found equally impossible to prevent shortening; because it will be found generally impossible to bring the broken ends again into such apposition as that they will rest upon and support each other.
>
> "Fourth. That in all fractures, whether occurring in adults or in children, where the fragments have never been completely or at all displaced, constituting only a very small proportion of the whole number of these fractures, a union without shortening may always be expected.
>
> "Fifth. That when, in consequence of displacement, an overlapping occurs, the average shortening in simple fractures, where the best appliances and the utmost skill have been employed, is about three-quarters of an inch."

Part II. of Dr. Hamilton's work treats, as already stated, of dislocations, and this important subject is handled in the same exhaustive manner as the portion relating to fractures, although the number of pages allotted to it is somewhat less. Under the head of general treatment, the author, after stating that many luxations may be promptly reduced by manipulation alone, points with great emphasis to the indispensable necessity of a thorough knowledge of the anatomy of the joints, or of the nature of the muscles and ligaments which antagonize the efforts of the surgeon in his attempts at restoration. His remarks upon this subject are so judicious that we cannot avoid giving them in the form of an extract.

> "We must understand not only what muscles and ligaments antagonize the reduction, if we would be most successful, but also what muscles, by being provoked to contraction, will themselves aid in the reduction. In short, to become expert bone-setters in the department of dislocations, one must possess a complete knowledge of the physiognomy or the external aspect of joints, acquired only by repeated and careful examinations, he must be familiar with the anatomy and functions of the muscles, he must understand thoroughly the ligaments, he must have experience, tact, and fertility of resource.
>
> "Without these qualifications he will do better never to undertake to treat dislocations, since he is constantly liable to mistake fractures for dislocations, and dislocations for fractures; he will submit a sprained wrist to violent extensions, under the conviction that the joint is displaced; he will mistake natural projections for deformities, and fail to recognize the real deformity when it actually exists; he will leave bones unreduced, fully believing that they are reduced; and he will all in all, within a few years, accomplish vastly more evil than he can ever do good. Let a man practice any other branch of surgery if he will, without experience or scientific knowledge, but he must not attempt to reduce dislocated bones. The most learned and the most skillful we shall find falling into error, embarrassed by the uncertainty of the diagnosis, or successfully resisted by the power of the opposing agents; what then can be expected of those who are both ignorant and inexperienced, but failures and disasters?"

In regard to Jarvis's adjuster, the author thinks it possesses some advantages over the pulleys; a circumstance which, he adds, may perhaps entitle it, at times, to a preference in certain cases. With this conclusion the result of our experience is totally at variance. We have seen a good deal of the workings of the adjuster, both in our own practice and in that of others, and we have never met with an instance where, conscientiously speaking, we thought we had derived any decided advantage from its employment. Unless judiciously managed, we consider it a dangerous apparatus, and no one will deny that it is not a most complex and awkward one.

We are somewhat surprised that the author has not been more definite, under the head of "General Treatment," on the subject of reducing dislocations by manipulation. It is true, he speaks in detail of this method afterwards, in the chapter on luxations of the hip-joint; but it seems to us that it would have been well to have discussed it here, and to have made an attempt to generalize it, or to have laid down rules for the guidance of the surgeon in the management of dislocations of the various articulations of the body. No one, we are sure, is better qualified for such a task than the learned author of this work. In the historical sketch of the reduction of luxations by manipulation, in the chapter above referred to, Dr. Hamilton adduces a great number of authorities, clearly showing that this mode of treatment dates back to the earliest ages of the profession, and that it was repeatedly employed by English and even American surgeons during the last and present centuries. Allusion is made to Dr. Reid, of Rochester, in connection with the subject; but not, as it seems to us, with that degree of prominence which that gentleman deserves for the agency which he exercised in methodizing the process, and in thus placing it conspicuously before his professional brethren. To him, more than to all other writers, is unquestionably due the merit of its general introduction.

Dr. Hamilton has added a large and interesting chapter on "Congenital Dislocations;" and although these occurrences are, in the main, extremely infrequent, yet a knowledge of them is, practically, of the greatest value, as their early detection and treatment are generally of paramount importance to a successful issue.

Finally, the work is furnished with two excellent indexes, greatly facilitating reference, and thus essentially enhancing its value.

Our task, as reviewer of this work, has been altogether a most agreeable one. We rise from it with the conviction that we have spent our time in pleasant company, and that we have profited by our labors. The book possesses great and intrinsic vitality, and will have the effect of placing its author among the foremost of those who have contributed so much of late years in enriching the medical literature of our country. The style of Dr. Hamilton is clear and vigorous, but not always free from error. Now and then we meet with an imperfect sentence, wanting an important member, marring its force and beauty. All this, however, will doubtless be corrected in another edition.

ART. II.—*Therapeutics and Materia Medica; A Systematic Treatise on the Action and Uses of Medicinal Agents; Including their Description and History.* By ALFRED STILLÉ, M.D., late Professor of the Theory and Practice of Medicine in the Medical Department of Pennsylvania College, formerly Physician to St. Joseph's Hospital, President of the Pathological Society, and Fellow of the College of Physicians of Philadelphia, etc. etc. etc. Philadelphia: Blanchard & Lea. Two vols. 8vo., pp. 813–975.

A NUMBER of treatises on any given subject constitutes, of itself, no objection to an increase of them, provided the new work be marked, either by the introduction of fresh and pertinent facts, or the better elucidation of previously known principles; an improved distribution of the several matters discussed, or even a clearer description and narrative of what had already been known. Following, as the present work of Dr. Stillé does, the labors in the same field of three of his Philadelphia contemporaries—Drs. Dunglison, Thomas D. Mitchell, and Wood, who had been professors and teachers as well as writers on the subject, not to speak of the almost encyclopedic production of Pereira, of foreign origin—we had a right to expect something distinctive and additional, to entitle it to particular notice and consideration. This we believe it to possess on more than one of the grounds just specified. It is well written, its tone is calm and philosophical, and its matter copious and conveniently arranged, both for the purpose of scientific connection and easy reference. The author, while drawing freely from the medical literature of Europe as well as of his own country, has contrived to be learned without pedantry, and to give us the light derived from modern without neglecting ancient lore. In this expression of our opinion of the voluminous treatise of Dr. Stillé on therapeutics and materia medica as a whole, we do not, however, consider ourselves pledged to abstain from criticism on some of its parts. Where, indeed, is there a work of nearly eighteen hundred pages which is not open to some critical thrusts? Ours will be neither deep nor numerous; they will hardly go beyond, here and there, a slight rubefaction.

What to prescribe, how to prescribe, and when to prescribe, are the conditions for the successful treatment of disease, which we profess to cure by the aid of materia medica, pharmacy, and therapeutics. The first tells us what articles or substances are given to us for selection, after our learning their origin and intimate composition, and their effects on the organic tissues, and through these on the living body in general; the second (the how) teaches the modes of collecting, preparing, preserving, and compounding medicines, with a view to their most convenient administration; the last (the when) indicates the circumstances in the morbid state of the body which are to be changed, palliated, or remedied by agents of the materia medica, classified in reference to certain ascertained modes of operation on the several organs and vital properties of the living human body. If the order in which the parts of the title of a work are prefixed were to correspond with that of progress, from the simple to the more complex of the subjects treated of, we might ask that writers would, both in title and description, give materia medica precedence over therapeutics. Such was doubtless the natural and experimental course of observation and inquiry, in relation to the effects of medicines on the animal economy. But in the present, as in some other departments of science, in which results are described without detailing the steps by which they have been reached, the synthetical is made to prevail over the analytical. In studying history, for example, the writer gives his own narrative and views, and the conclusions which he has drawn, and refers his readers to documentary matter, in notes and appendix, for proofs of his accuracy and the correctness of his judgment. We will not, therefore, make any objection to the title of Dr. Stillé's work—for which, by the way, he has good precedents—but proceed to notice some of its chief features, which, if not original, have at least a pleasant air of freshness about them, inviting to further and more familiar acquaintance.

The "Introduction," true to its title, does really prepare us, step by step, for a further and detailed view of the subjects which are successively brought to our notice as we advance.

> "Works on therapeutics are complementary to works on practice of medicine. In the latter, many remedies are examined from a point of view in a single disease; in the former, many diseases are examined in their relations to a single remedy. Either would be incomplete without the other; and he is the best practitioner of medicine who most certainly and clearly keeps before his mind the reciprocal dependence of the two great departments of the art of healing."

In the subsection, on the "*Sources from which Medicines are derived and the Causes which modify their Virtues*," occurs the following remark, which we have long been in the habit of making when speaking of quinia and its salts, as the alleged representatives of the Peruvian bark: "In nature a medicine seldom exists in a pure or isolated state; and although chemistry has extracted what are called the active principles of many drugs, as quinia and its salts from cinchona, and morphia from opium, it has at the same time revealed, that nature has associated with these principles certain others which, subordinate though they may be, are probably essential to the effects produced by the drug in its natural state." Bearing in mind these facts, we shall have recourse, in obstinate cases of periodical fever, to the bark in substance and its officinal preparations in addition to quinia; and when we are baffled in procuring sleep for our patient by the salts of morphia, we shall fall back on opium in substance, or in combination with ipecacuanha and a neutral salt, in that never-to-be-too-much-praised Dover's powder.

"On the Sources of Knowledge in Therapeutics," the author, among other points, presents the following. He had just been speaking of the instinctive cravings manifested in disease, as suggesting the use of certain remedial means:—

> "Every one has witnessed the intense desire for cold drinks usual in acute febrile diseases, the craving for acids in scorbutic affections, and in some others distinguished by a diminished crasis of the blood, and also the longing for innumerable and widely dissimilar articles of food, many of them disgusting, or in themselves unwholesome, by pregnant females. The chlorotic girl who greedily

> devours plaster, and chalk, and charcoal, obeys an internal craving, which is often explained by an excessive secretion of an acid, which these substances absorb; and, as Albers has remarked, the selection which she will sometimes make of such articles is wonderfully fastidious. He met with children who relished charcoal made from boxwood, but not from oak; soft but not hard chalk, old but not new plaster; and we remember a young lady, of marked chlorotic aspect, whose unnatural appetite could only be satisfied by a certain ferruginous pebble, which she diligently searched for in the gravel-walk of her garden."

It is mortifying to reflect, how often instinctive cravings have been determinately opposed by physicians, under the influence of speculative notions, as in the familiar instance of the desire for cold drink in the exacerbations of fever. In place of gratifying the patient in his intense longings, he was told to use warm drinks instead; or in other cases, as in dropsy, he was subjected to the horrors of thirst. So, also, in the morbid processes going on in the intimate structure of the organs, which, left to themselves, would often end in restoration of healthy tissue and organic action, but which, interfered with and interrupted by art misapplied under the directions of false reasoning, pass into further and destructive changes. More obvious suggestions for the relief of suffering and disease were furnished in the effects of accidental and temporary increase of some functional actions, as in purging, sweating, and diuresis, and even hemorrhage; and the inversion of others, as in vomiting. Attempts to imitate these evacuations "were doubtless made at first, and derived by imitation from the lower animals, or by an accidental experience of the powers of different agents on man."

> "Until the time of Galen, who lived in the second century of the Christian era, medicine hardly claimed the rank of a science—or a philosophy, as it was then termed—but contented itself with a diligent observation of nature and the results of experience. These were gathered and observed by Hippocrates, Theophrastus, Celsus, Dioscorides, and Aretæus, and have continued to be the fountain from which later ages, even to the present time, have drawn their chief supply of therapeutical knowledge."

The attempt of Galen to frame a system of medicine in which practical precepts were deduced, not from experimental observation but from previous speculative dogmas, was successful in securing support from his followers for thirteen centuries, but it utterly failed when subjected to the tests of experience and induction.

> "Before proceeding to consider more particularly the sources from which our knowledge of the curative power of medicines is derived, it is proper to premise what should be understood by the phrase, to *cure* disease. The word to cure, in its proper and etymological sense, means 'to take care of,' and it is only derivatively that it has come to signify to heal or 'to restore to a sound or healthy

state.' The distinction is happily expressed in the Latin line, *Medicus curat, Natura sanat morbos*—Physicians cure, but Nature heals. Medicine is only the handmaid of Nature, the really active and efficient agent in the restoration of health; medicine can do no more than remove the impediments from Nature's path, support her when faint, restrain her when violent, and guide her when she is inclined to err. But the vital powers and functions of the organism have an inherent tendency to return to their normal condition when deranged by any cause, and to remove or repair the alterations of structure which may have attended that derangement. In this consists the healing power of Nature, *vis medicatrix Naturæ*, which, under various names, was recognized even in the earliest ages of medicine, and indeed more fully then than at any subsequent period until modern times."

We regret that Dr. Stillé should repeat, both in the above and succeeding paragraphs, these commonplaces of metaphorical ascription to Nature, as to an efficient cause, the production of a series of phenomena which are, in truth, nothing more than a series of antecedents, and in some instances of concurrents, with the real cause of which we are unacquainted. Nature, as here used, like the *animus* of Stahl, the *archæus* of Van Helmont, and the *vital principle* of Barthez, is a mere metaphysical ontology, a speculative abstraction, which has not even the secondary merit of elucidating or explaining anything. We may say of it what Comte says of the vital principle of Barthez, that it assumes to be a real and complicated existence which is profoundly unintelligible. It was with similar language, as for instance functions and occult virtues, that chemistry and physics were loaded and their progress retarded during their metaphysical period. The ordinary language, the course of nature, the laws of nature, etc., is never thought to imply a causative or governing power in an entity called nature, but merely the expression of a certain uniformity of progress and regularity of results ascertained by sufficient induction. The successive series of natural phenomena cannot be understood, certainly cannot be described by an abstraction, in our assuming the presence of an imaginary existence—spirit, soul, or nature—to produce these results. The contrast between the figurative and the descriptive, the unmeaning and the meaning, is well exhibited by the author in two sentences; the one following the other in the second of the paragraphs which have furnished matter for these comments of ours—"The highest achievement of art is to sustain nature, that she may have time if possible to perfect her work." Here are two metaphysical entities invoked to perform important parts in the field of therapeutics, but what they actually do is beyond conjecture even, and must be left for imagination to disport itself on. What a contrast to this poetry of the subject is offered in the very next consecutive sentence! "The whole process by which wounds are healed is a natural one; and consists simply in the establishment of the nutritive process between the divided surfaces; of the exudation of a plasma, and of cells; the formation of blood-vessels; and the absorption of the excess of the material." If immediately after this he indulges in the redundant phraseology of "this simple method of nature," and of "nature" as "so efficient in healing external lesions," we need the less object, as the previous descriptive text is, of itself, clear and comprehensible. Is the following sentence rendered more effective in causative assumption—certainly it is not in description—by the words "referring to nature"? "Even in ordinary inflammation, the tendency to form an abscess, or at least to erect a barrier of coagulated albumen between the central seat of the lesion and the surrounding structures, illustrates the conservative power of nature." Would it not be somewhat more expressive of that which actually occurs on this occasion, to refer it to the inherent conservative power of the living organism—a property of the material parts in action, a sequence of antecedent phenomena of living structure, but not a *Bona Dea*, an imaginary creative-spirit? Believing the author to lean, if he does not adhere to the positive philosophy of Comte, we have been the more free to comment on his retaining some of the metaphysical subtleties of the olden time which are discarded by that philosophy, and which are opposed to the prevailing manner of both physiological and pathological investigation at the present day. There are still medical as well as other superstitions which obstruct progress in this age of boasted enlightenment and free inquiry.

Reference is made by Dr. Stillé to "the doctrine of crises, which formed so capital an element of the Hippocratic pathology, and the one of all others which does not countenance a perturbative treatment." An apology is offered for the inability of physicians to save the lives of the sick, on the ground of there being in some cases a destruction of organ, which precludes the possibility of restitution under any conceivable circumstance; in others, a vitiation of the blood, which cannot be readily ascertained, nor, when known, easily corrected. Between the two extreme classes—of diseases cured, as he terms it, by nature, and of those in which neither nature nor art avails to avert death—"there is," the author adds, "a middle class in which the skill of the physician and the power of his art are chiefly manifested. They are affections, some of which have little or no spontaneous tendency to cure, as goitre, syphilis, periodical malarial diseases, etc., or else incidental states or phases of continued fevers, inflammations, and other more specific affections."

The next topic discussed is on the "Sources of Knowledge respecting the Action of Medicines." While affirming, as "a fundamental truth, that therapeutics must be learned at the bedside of the sick," the author points out the difficulties in the way of determining the essential action of the medicine employed, and the common and special embarrassment in distinguishing between the symptoms of a disease and the effects of a medicine. Clinical observation is, in a peculiar manner, liable to fallacies of this nature, and often the practitioner complacently attributes to his prescriptions effects which belong to the successive changes and stages of a fever, or of an inflammation. From the pride of opinion thus engendered, "the transition is short and easy to a positive and willful misrepresentation of truth, to creating facts to sustain a theory, or to alleging results of treatment different from the true ones, perhaps the reverse of them entirely." New medicines are introduced almost every year to the exclusion of old ones, whose sole recommendation, it must be confessed, is in some instances the length of time in which faith has been put in their efficacy. A more rigid inquiry in a better method of investigation, has, "it is true, not only permitted many of the ancient remedies to maintain their place with undiminished reputation, but has even strengthened it by revealing and adding to the grounds upon which it rests. It has also enriched the healing art with a great number of new remedies, whose value has been tested and confirmed by observations carefully made in many countries, and under varying circumstances during a long series of years."

The author advances a brief defense of the numerical method, as applied to therapeutics:—

> "Doubtless there are elementary conditions or lesions, however occurring, which are uniformly controlled by the same remedy; depletion everywhere modifies, at least, the forming stages of inflammation; mercury everywhere acts upon its products, opium in all cases assuages pain, etc. These uniform effects are determined by observation and the aggregation or addition of similar facts; and the more systematically they are ascertained, the more absolute will the results become. The latter class of general facts form the foundations of general therapeutics, the former the laws of special therapeutics."

Complaint is very justly made of continual trespass on the domain of therapeutics by pathology, physiology, and chemistry. Their ancillary aid cannot be refused; but their arbitrary assumption of lead and of abilty to solve the recondite problem of the cure of disease are matters for grave challenge and rebuke of inadmissible pretensions—we have, in former years, sometimes called them impertinent intrusions. The author, pursuing his argument of the nullity of *à priori* observation or research, says that there is not, he believes, "a single example of a medicine having been received permanently into the materia medica upon the sole ground of its physical, chemical, or physiological properties." It would not have been amiss, at this point, for him to admit of some qualification of his adverse opinions, in favor of the suggestions which botany sometimes furnishes of the probable medicinal activity of a plant, seen for the first time, from the fact of its belonging to a great natural family, the *convolvulaceæ*, the *umbelliferæ*, or the *solanæ*, for example. The accordance between the properties of plants and their physiognomy is not, however, of such uniformity as to furnish material for more than suggestion, when we know that among the convolvulaceæ we find jalap and scammony, and that from the same family comes the sweet potato; and if the unbelliferæ yield cicuta, so do they, also, our common parsley. The *cucuritaceæ* yield the drastic colocynth and elaterium, and give us, notwithstanding, the melon, the gourd, and the equivocal cucumber. The exception to the last examples is perhaps more apparent than real, for a bitter principle is found in the rind of the melon and cucumber analogous to elaterium and colocynth.

After speaking of the confirmation of the results of clinical observation furnished by experiments upon the healthy organism in man and the lower animals, he defines the uniform action of medicine upon healthy structure or function to be its physiological operation; and its therapeutical to consist in its curative action upon diseased stfucture or function. "But the latter involves infinite difficulty; for we are required to determine the influence of an agent upon functional and structural conditions, with the natural terminations and tendencies of which we are only imperfectly or not at all acquainted." With all its imperfections, however, we must take, as the only available standard, the operation upon the healthy body of the same medicines which we administer in disease.

"But let us not suppose, that even this method is exempt from difficulties and imperfections. The perfectly healthy constitution which the problem demands is seldom to be found; or else individual peculiarities exist which, unless the experiments are frequently repeated, require us to accept their results with circumspection. Age, sex, and constitution modify the action of medicine, and accidental circumstances, such as climate, season, and occupation, are not without their influence. To take a single example: the doses of cathartic medicines which are habitually used in cold and temperate regions would be fatal in tropical climates. Idiosyncrasies, as they are called, peculiar and inextricable susceptibilities, frequently modify and even reverse the ordinary action of a drug. Ipecacuanha in the smallest dose may occasion a violent coryza, or the least quantity of mercury induce ptyalism or produce nervous prostration; opium may induce wakefulness instead of sleep, etc."

"We can with some confidence foresee the effects of medicines in health, but in disease there is no experienced physician who does not feel uncertainty, and indulge in some self-gratulation when the result corresponds with his predictions."

"There is a large amount of information, respecting the operation of medicines, to be obtained from a study of a case in which they have been taken in excessive doses by mistake or with criminal intent."

Experiments on animals are declared to be "of great value, because they enable us to make a large number of comparative observations, varying the conditions at pleasure, so as to arrive, by exclusion, at those effects which are peculiar and essential to each medicine. We can also observe the different modes of their action, according as they are administered by the stomach or the bowels, applied endermically or to the surface of wounds, injected into serous cavities, into the blood-vessels, etc. Further, we can in this manner learn the diversity of effects produced by various doses, degrees of dilution or division, and modes of combination of the several medicines. But more distinctly than in any other way we can thus discern the lesions which are produced in the body by medicines capable of acting as poisons, according to their dose, form, etc."

It is to be remembered, in this place, "that many medicines do not affect man and the lower animals alike. They may be poisons to the former, and food to the latter. Hemlock and water-hemlock (*conium maculatum* and *cicuta virosa*) are eaten in considerable quantities by cows without injury, but they are poisonous to man. Albers relates that he gave ten grains of pure morphia to a rabbit without producing any effects of opium. To another he gave twenty-five grains of this substance without destroying it. Eight days afterwards he administered to the same animal a drachm of opium and ten grains of morphia. It lived, and gave no sign whatever of narcotic poisoning. Horses can take large doses of arsenic without injury—so large indeed, says Albers, 'that they would destroy as many men as would weigh twice as much as a horse.' Infusion of quassia, which to man is a salutary tonic medicine, is extremely poisonous to flies, and destroys even dogs when injected into the veins. In herbivorous animals, as the rabbit, vomiting never occurs; while in carnivorous animals, as the dog, it is readily excited. Moiroud states that colocynth, jalap, gamboge, and bryony, which operate as violent purgatives on man and carnivorous animals, have comparatively little effect on the horse and other herbivorous animals."

The copious citation of facts, to strengthen the propositions laid down, and arguments advanced in enforcement of principles, give peculiar value to Dr. Stillé's work, and tempt us, at every moment, to make extracts from its pages. We must, we find, resist this temptation, as it would carry us far beyond any reasonable limits of analytical review,—although our readers would easily excuse us for each instance of excess in this way, for the additional instruction received by them on the occasion. The section on the "Physiological Action of Medicines," in its two divisions of the *local action of medicines* and their *remote action*, is very rich in experimental matters to illustrate the questions which come up on the effects of medicinal agents, in virtue of their penetration and absorption, and through nervous agency and the circulation of the blood. We regret much not being able to quote at large the interesting summary, drawn up by the author, of the various experiments, and deductions from them, on absorption, made by different individuals within the last half century. We may say the same of the section on the "Conditions for the Absorption of Medicines," and the "Avenues by which Medicines are introduced and the Various Effects which they Produce"—under the several heads of "*Infusion, or the Injection of Medicines into the Veins; the Stomach; the Rectum; the Mouth and Fauces; the Skin; Inhalation.*" On the subject of endermic medication many valuable experiments and observations are collected and collated. Those on the method of introducing medicines through the skin by inoculation are particularly fresh, and suggestive of much improvement in our therapeutical resources. "The Changes which Medicines undergo after Absorption," is a theme of great practical moment, ably discussed.

The subject of the "Curative Action of Medicines" opens a wide field for inquiry, which is carried on under the heads of the *primary* and the *secondary* operation; sometimes one and sometimes the other of which is curative. The specific action of medicines requires, and has obtained from the author, a particular examination. We are not to suppose that in using the word specific, any intelligent physician means to say that there is any substance thus designated which will cure a disease infallibly and universally, or work like a charm; but that its general effect is to remove a disease without its producing any marked change in the sensations or functions of the organism, as in the instances of cinchona curing intermittent fever, iodine goitre, etc. "Some medicines tend to escape from the body through certain organs rather than through others, and in doing so, to exert a stimulant influence upon them, or, in addition, as in the cure of certain glands, to modify their secretions." A detailed statement is given of the several organs and the medicines which manifest an elective affinity for them. According with what had been learned from long previous clinical experience, we are told that "of medicines that act upon the *liver*, mercury is the chief." In experiments upon animals, "the secretion of bile was augmented by the administration of mercury, and this substance has afterwards been found in the hepatic duct. Oil of turpentine renders the bile thinner and more abundant; coffee, on the contrary, makes it thicker and darker; alcohol increases its fatty constituents and those of the liver. Sulphates and tartrates are said to be cholagogues, and so is aloes; but although the experiments of Jorg appear to favor this view of the action of aloetic purgatives, it is not generally adopted; the coloring matter of the drug, it is thought, has been mistaken for that of the bile."

"Sedatives of the *heart* and *blood-vessels* include digitalis, white and green hellebore, aconite, colchicum, and squill; the principal stimulants of the same organs are alcohol, wine, iron, and assafœtida." One of the medical creeds of the day would seem to be supported by no adequate evidence, if we take the following as indications of the facts of the case: "Albers states that phosphoric acid, which in old and in recent publications is alleged to have a specific operation upon scrofulous and rachitic affections of the bones, he has found, by repeated trials, to be wholly destitute of such a virtue."

"Influences Modifying the Effects of Medicines" are discussed with due method and precision, under the heads of *"Diversities in Medicines themselves,"* and *"Diversities presented by Patients; Influences of Race, Climate, Season,"* etc. Climate, season, locality, and soil exert, severally and in combination, a strong modifying influence on the activity of the medicines from the vegetable kingdom. "The hemp of Northern Europe and of the United States possesses no remarkable medicinal qualities, while that of Asia (*Cannabis Indica*) exudes a juice which is a powerful narcotic. All extracts made from the roots and herbs of plants are comparatively worthless, if obtained when the juices are diluted and feeble in the spring." The form of a medicine, its dose, full or small, or in divided doses, are important qualifying conditions not only for its greater or less activity, but for its operation and curative effects. Tartar emetic, for instance, in a dose of a grain diluted in water, acts as an emetic of considerable power. In smaller fractional doses, repeated at intervals, it reduces the pain and abates all the phenomena of fever and inflammation. The same quantity of a medicine, calomel for example, taken at once or spread over a period of time in divided doses, will be followed by a totally different series of actions, both physiological and therapeutical: the most prominent points of contrast will be found in its freely purging in the first instance, and its salivating in the second. "The doses of medicine vary with the parts of the body to which they are applied—the stomach, the sound skin, the rectum and colon (by enema,) the eye, endermic application, ulcers and suppurating sores."

Dr. Stillé has omitted to refer to them, although he must be well aware of the facts of the modifying influence of the time of the day and the period in a disease in which medicines are administered, on their direct effects and therapeutical value. All medicines taken by the mouth in the morning will be found to exert a speedier impression not only on the gastric and intestinal surfaces to which they are applied, but, also, on remoter organs which are acted on by the absorption of the medicine and the circulation or by nervous transmission, than in a later hour of the day. We turn this knowledge to useful account in prescribing a purgative in the morning, or, to meet a different indication, a tonic or a diffusible stimulant. There is an accumulated excitability after a night's sleep, which causes the organism to respond with increased readiness to every kind of stimulus applied to it. Very different also will be the effects of the several agents specified according as they are given in the period of the remission or of the exacerbation of a fever. A purgative taken at the former will act well and fully; at the latter, it will increase the febrile irritation, and probably fail entirely to produce its ordinary first and sensible effects. A tonic in the morning remission will often prevent the recurrence of the febrile paroxysm; given when this state has supervened, it will aggravate its worst features and prolong their duration. So, *à fortiori*, in the case of diffusible stimulants given at these different periods. Narcotics, as hypnotics and anodynes, may, on the other hand, be expected to produce their desired soothing effects in the evening, when the body has been weakened and to a degree exhausted by the excitement, and, in chronic cases, the exercises and labors of the day, and, in consequence, requires less extraneous or medicinal assistance to produce the expected and coveted sleep. If the physician has the day at his disposal, he will, therefore, imitating to a certain extent the rhythm of the healthy functions, direct, if the case requires such medication, a purgative early in the morning and a hypnotic in the evening.

There is yet another point coming under the present head which demands long and patient observations, and a series of experiments far beyond what it has yet received. It is, the period of the entire and continuous operation of a medicine, taken into the stomach, on the organism. Ignorant of the successive stages, and of the duration of each of them, we cannot tell whether the article we prescribe at the moment may not be subjected to a decidedly modifying influence by the yet persisting operation of another and contrasted agent administered some hours previously. Our notions on this matter are sufficiently crude and limited; as, for example, when we speak of the operation of an emetic or a purgative being over, after the evacuations from the stomach or the bowels have ceased—and deem ourselves free, in consequence, to prescribe forthwith another medicine to meet a new and different indication. Careful observation would show that the active effects, as we may term them—and by this we mean more than mere emesis and purging, will last, or perhaps we should say continue to be developed, during the whole diurnal period; and if so, these effects must be interfered with, and even combated or neutralized, by another kind of medication, or they will, themselves, weaken or counteract the results which we anticipated from this latter, if given within this period. Would an additional diurnal period be too long for a purgative to produce the full series of its effects, including the quieting, almost sedative ones which succeed the revulsive, as these did the evacuating, which in their turn followed the primary irritating operation of the medicine? Must not an excitement, bordering on the febrile, which follows the first and even second series of actions caused by a purgative, have subsided before the nutritive system can resume or regain, as the case may be, its customary functional activity so as to allow of the full enjoyment of alimentation and of the full vigor of subsequent digestion, chylosis, and hematosis? With our attention fixed on the successive series of phenomena thus produced, and which each person can observe on himself, in ordinary circumstances, in which a purgative is taken to correct a slight indisposition or ailment, we can approach to a consideration of the more complex problem of its full operation in a fixed and febrile disease.

The difficulty of determining, with more than a bare approximation, the time occupied by the successive stages of the operation of a narcotic, whether it be hypnotic, anodyne, or mixed sedative and stimulant, is continually felt by the medical practitioner. A spirit of routine prevents him from appreciating the fact of the time that must generally elapse between the ingestion of the medicine and its first anticipated therapeutic effect, and the often longer time between the subsidence of the anodyne and soporific operation and its subsequent disturbing and depressing ones. How common to prescribe an opiate, with a view to its procuring sleep, at the ordinary hour of retiring in the evening, or at bedtime, as we call it, and to learn, in the morning, that the coveted sleep did not visit the patient until the morning was come, and with it sounds and distracting causes, in the house and out of the house, which rouse him from slumbers but half enjoyed! And yet the inference is still often lost sight of, viz., the propriety of prescribing the opiate at an earlier hour in the evening, and allowing the patient longer time for its prolonged effect in the morning. An analysis of the more obvious secondary effects of narcotics, after the anodyne and soporific ones have subsided, would probably show that they continue during nearly the whole of the following day; and that if we prescribe other medicines during this time, it ought to be with a perception of an increasingly complex problem before us, made up of the disease we are treating, the continued effects of the medicine or combination last used, and those of the substance now given with a view to its immediate curative action. To causes of this nature must we attribute the complicated features, the anomalous symptoms, which embarrass the physician in the more advanced stage of the disease. If he have self-possession and firmness he will endeavor to simplify the problem, and to reduce it to fewer elements, by withholding all medicines for a certain period, it may be a day or more. He will then be able to discover what was due to the disease itself, what to prior medication.

Under the head of diversities produced by patients, reference is made to *age, sex, habit, idiosyncrasies, and mental influences,* and appropriate remarks are made on each of these modifiers. In speaking of the influence of race, climate, season, etc., the author remarks: "It is difficult, in reference to the present subject, to separate the influence of race and climate, for it is generally found that the foreigner who is acclimated and has also adopted the mode of life peculiar to the natives of his new residence acquires a similar susceptibility to the action of medicines." This is too limited a view of the question, which ought to embrace the therapeutical differences of susceptibility between distinct races, the Caucasian, the Mongolic, and the African in their respective countries, as well as a comparison between two of them, the white and the black for example, in the United States, under similar circumstances of climate and locality, as also of the white and the yellow as far as we find them together in China, and two great families of the same race, the Hindoo and the Anglo-Saxon, as they present themselves under the same climatic influences in Hindostan. Colonization, commerce, and travel place it in the power of intelligent observers to extend and give some fixedness to our knowledge in this matter, of which in earlier times the world would have remained hopelessly ignorant. Dr. Rush, in one of the "Inquiries," which we noticed with some fullness in the last number of the REVIEW, broaches the question, by reference to the dietetic and medicinal usages of the Indians of North America compared with the civilized people of the white race. The therapeutical and surgical records of Dr. Parker and other medical missionaries in China, leave the inference that the people of that country bear up after injuries and operations to an extent rarely seen among Europeans or Anglo-Americans.

The cautions by the author to have recourse to depletion and the use of active medicines with great reserve in old age, are in the main correct; but they admit of considerable qualification, and must not be received to the extent of withholding depletion by blood-letting and purgatives, in cases in which the symptoms would point beyond dispute to their use in younger subjects. We have, ourselves, used venesection in hæmoptysis, pneumonia, and enteritis, in persons of both sexes who were past their seventieth year, and with effects which, considering the recovery of those persons and the subsequent comfort and average health they enjoyed, were, to say the least, far from regretable. In every instance, however, this active medication was only had recourse to after the obvious failure of milder means to procure even an amendment of the violence of the disease.

There is yet another means of modifying the action of medicines when used for therapeutic purposes, which, although often neglected, is of the highest importance. We refer to the increased tolerance and renewed susceptibility of an organ or organic apparatus, to an article of the materia medica or a pharmaceutical compound in consequence of the operation of a previous remedy. How often in the early stage of fever, not to speak of distinct gastritis, is the stomach in such an irritable state as to be unable to retain a purgative or even a mild laxative, and how often is the trial repeated to procure evacuation from the bowels by giving a succession of medicines whose operation would, it is hoped, bring on this result. Each attempt in this way is only a fresh source of irritation, until the stomach, if it could become vocal, would entreat for rest, which, it must be confessed, is of itself sometimes adequate to the desired end. But, more readily and confidently, shall we be able to tranquilize the stomach and enable it to retain the purgative, by prior recourse to venesection, and to the application of leeches over the epigastrium, and sometimes of a remedy of an entirely different class—a vesicatory or a sinapism?

After a patient has been subjected to the double disturbance of his organism, by the recurring paroxysms of periodical fever and a succession of stimulants and tonics, from quinia to centaury and chamomile, including all the changes to be rung on the first of these articles, in augmented doses and in various combinations, without benefit, a change in the susceptibility of the stomach and nervous system by remedies of a different class, as by a single venesection or a few grains of calomel or even blue mass, will make the entire organism amenable to the full anti-periodic influence of the very same articles, in the very same doses, and forms of combination, which had previously failed to produce any curative effect. So also will the desired soothing and soporific effects of opium be more certainly obtained after venesection, or the operation of a purgative.

Dr. Stillé's rich introduction to his treatise ends with some advice and details on the "Administration of Medicines," under the subheads of *The Forms in which Medicines are employed*, the *Art of Prescribing*, and finally with a separate section on the "Classification of Medicines." The author has twelve classes; the eleventh being evacuants. These are epispastics, errhines, sialagogues, emetics, cathartics, expectorants, diaphoretics, diuretics, emmenagogues, anthelmintics. The twelfth class consists of alteratives. In the difficulty of finding any natural classification, we must still always admit the necessity of making one in this as in other departments of science, and especially in natural history. A classification is an aid-memory, and prevents repetitions which would become wearisome.

We shall not attempt to follow Dr. Stillé in his accounts of the *modus operandi* and general indications for the use of the several classes of medicines; and still less can it be expected of us to notice even the prominent articles of each class. In skimming over his fertile pages, we shall merely stop here and there for a moment to cull, it may be to scrutinize, some of their multifarious products.

Bitter almonds, placed among the first class, or lenitives, may be used in the same cases in which hydrocyanic acid is administered. "In such cases the essential oil may be prescribed in doses of one-quarter of a drop to a drop, in emulsion. But when a demulcent as well as a sedative operation is required, the emulsion of bitter almonds is to be preferred."

In catarrhal affections of the mucous membranes, it is both a pleasant and a useful preparation. The simple almond emulsion has long been used to remove sunburn and freckles.—*Glycerin*, in the proportion of one part to five of flaxseed tea as enema, is an excellent remedy in dysentery, by soothing the irritated rectum and suspending the tenesmus. It is well spoken of as a local application to the interior of the larynx in membranous croup. In partial loss of the tympanum and in epithelial thickening of the meatus, glycerin introduced in the external meatus has been productive of much good. It exerts a favorable action on wounds, ulcers, and burns, and, combined with tannin, in vaginal leucorrhœa by means of a solution of camphor saturated with one part of the former to four of the latter. This last combination in the proportion of one to sixteen, in solution, has also been used advantageously in fissures of the tongue and anus, and on chapped and fissured nipples. As a palliative it is useful, but only to this extent, in chronic diseases of the skin.—*Collodion*, like glycerin, is a new remedy. It was at first and is still employed as a substitute for adhesive plaster in the treatment of wounds; and subsequently and with great advantage in that of ulcers, especially when they are exposed to continued irritation, as in those of the neck of the uterus. It is a good preservative of slight wounds or abrasions from infections in dissection, surgical operations, and the practice of midwifery; it serves also to arrest excessive bleeding from leech-bites. In erysipelas, depending more particularly on local causes, this article has been applied with the best effects, and also in superficial burns. Collodion has not maintained its first reputation "as an ecbolic remedy in small-pox, to prevent the development of pustules upon the face and the unsightly scars which too often follow them." It has been used with more or less advantage in various diseases of the skin, as intertrigo, varieties of herpes, lichen, lupus, acne, chronic erythema, etc. In swelled testicle and in varicocele, collodion, by its constrictive effects, has been very useful. It should be first applied to the scrotum, near the root of the penis, and gradually extended downward, and somewhat to the opposite side.

"Böcker, who has carefully examined the question, shows that sugar is not directly a fat-producing substance, and that it cannot possibly contribute anything to the nitrogenous tissues." "The appetite for it displayed by children appears to be a natural instinct, the object of which is to enable the system to appropriate for the growth of the organs azotized food which would otherwise be consumed in the production of animal heat." The author inclines to the belief expressed by Böcker and Larrey, that sugar is injurious to the teeth. The expectations entertained from some trials made, of the beneficial and even specific agency of sugar as a cure for diabetes, have not been borne out by experience.

The following remarks on "astringents" are discriminative:—

"Each of the several astringents has powers which are peculiar to itself, and they can by no means be substituted for one another, so as to produce identical effects. Nitrate of silver and sulphate of copper excel vegetable astringents in consolidating ulcerated tissues, but preparations of tannin, or rather of some of the astringent barks, are far superior to those mineral remedies in preventing that softening of tissue which tends to terminate in ulceration. The first-named articles are also better adapted, as a general rule, for internal administration. Creosote, nitrate of silver, nitric acid, and other strong acids are more efficacious as styptics than tannic acid. Except creosote, these are also caustics. Several astringents possess likewise specific powers of a totally different nature. Lead, for example, in some of its forms, has a special aversion to the nervous system; and in another, constitutes a powerful deodorizer. Iron, which in certain of its combinations—as the perchloride—is eminently a styptic, is a tonic in its general operation. The sulphates of alumina, copper, and zinc are emetic as well as astringent, and the second is supposed to have some periodic influence, while the last is employed in the treatment of neuralgia."

Alum, in its primary local action, is decidedly astringent, and on this account it is productive of constipation; but if its action be sustained and prolonged it may ultimately increase the secretion of the part in place of diminishing it. In one of the most obstinate forms of constipation, that which depends on lead poisoning, it is used to overcome this state. "The familiar facts of practical medicine render it certain that when alum is taken into the stomach it is absorbed, and modifies the blood, and probably also the contractility of the animal fibres. But it is also found in the urine of persons who use it, and in the liver, spleen, and other organs of animals to which it has been given in large quantities." In all the experiments on animals to determine the effects of alum on the tissues and functions, the mucous membrane of the stomach was strongly inflamed, and in some cases erosions existed. "A drachm is usually sufficient to produce vomiting in a child under five years of age, but much larger doses have been taken as a remedy for intermittent fever, or otherwise, by adults, without any other effect than transient nausea." In lead colic the dose of powdered alum is from one to three drachms a day, given in solution. It has also been found very serviceable in cases of habitual constipation, producing or produced by atony of the bowels. In the doses of one or two scruples, Mr. Aldridge, quoted by the author, found that it would often produce large and very solid evacuations. "Associated with sulphate of magnesia, it corrects the unpleasant taste of this salt, and its tendency to produce flatulence."

A statement in the work before us, of the therapeutical and toxical operation of lead on the economy, reminds us of an opinion which we have long held, that this class of astringents is far from a natural one.

The several articles of which it consists are not by any means distinguished by close analogies to each other, nor by any harmony of action. What resemblance, for example, is there between the constringing of tissue and augmented tone of an organ, produced by vegetable astringents as represented by tannic acid, and the sedative and deadening operation of lead, running into anæsthesia and paralysis? Nor is there an approach to unity of therapeutical action if we look at diseases and their stages in which we prescribe the two agents. Preparations of lead are used in the very beginning of cases of inflammatory action, and in active hemorrhages; vegetable astringents in the decline of inflammation, if at all in this morbid state; and in passive hemorrhages followed by anæmia and great nervous debility; also in atonic dyspepsia. In the profluviæ, in which both are used, lead is chiefly beneficial by its sedative action, in allaying irritation and nervous excitement; tannic acid, the representative of vegetable astringents, does good by its increasing the activity of the nervous system and raising the powers of the economy.

Tannic acid, in addition to its now well-known efficacy in passive hemorrhages and in chronic mucous discharges, when taken internally, is also used locally with the best effects.

> "As an external application to the skin, when an astringent remedy is required, Mr. Alison thinks it is of special excellence. He used an ointment of it with remarkable benefit as an application to psoriasis. But it can of course be only subsidiary to other means. It is of use also in preventing local perspirations, and particularly fetid discharges from the armpits and feet."

In these last-mentioned circumstances, the physician will not attempt a sudden suppression of the habitual discharge by purely local means, without the previous use of purgatives and alteratives. Gallic acid is highly praised in hæmaturia, and in purpura hemorrhagica, and has done good service in the relief of albuminuria.

In the chapter on "Irritants," the reader will derive instruction from the author's descriptions of the *mechanism of medicinal irritation*, and of inflammation. The *theory of counter-irritation* also is explained with considerable fullness, and an explanation offered of what are vaguely called sympathetic influences. Among *the elements of the counter-irritant action* pain ranks foremost, and *substitution* as a method of cure is suitably examined. Stimulant applications, made directly to an inflamed tissue for the purpose of curing it, are of very frequent use. This treatment "is applicable almost entirely to primary idiopathic inflammations." Counter-irritation, as revulsive according to the nature and stage of the disease, and the extent of a diseased part, as also the constitution of the patient, is described and explained. The depletory action of irritants is next inquired into, and suitable cautions are given not to have recourse to excutories without a strong conviction of their necessity, and not to discontinue their use without the creation of some supplementary evacuation by depletion, purging, or diuresis, or else by hygienic means adapted to prevent the undue production of blood, and especially its production in particular organs.

With whatever favor we may regard the views of the author on the philosophy of the general therapeutic action of irritants and of counter-irritation, we must, however, express our dissent from his enumeration of particular irritants, which, in different instances, is neither in harmony with his definition of the class nor with the acknowledged *modus operandi* and curative effects of some of them. His division of irritants into *rubefacients*, *epispastics*, and *caustics* or *escharotics*, and his description of their immediate effects, are suggestive only of topical remedies and local action externally applied; but, with few exceptions, they fail to give intimation of the constitutional operation and alterations in the functions produced by the internal administration and general diffusion through the organism of other agents which he calls irritants, but which make no approaches to being a rubefacient, a vesicatory, or a caustic. It would have facilitated an understanding, or at least a clearer idea of the subject, if the author had described the pathological state called irritation, for, in fact, under nearly every aspect in which we may regard it, irritation is either a primary morbid process or the imitation of one by certain agents of the class above described. We were for a moment tantalized by the words "mechanism of medicinal irritation," but in place of defining this process, the author passes on, at once, to speak of inflammation, from the successive phenomena of which he deduces the indications for the employment of counter-irritants. Failing to explain irritation as a morbid process, he also soon loses sight of it as an artificial condition induced by certain agents with a view to their curative effects, and he speaks, instead, of artificial inflammations palliating or curing those which arise primarily and idiopathically. Gradually, however, we find the author gliding into another phraseology, which is indeed the best adapted to express the phenomena of counter-irritation and the means by which it is performed, as when he speaks of "the application of stimulant agents," "a local stimulant treatment," "stimulants employed," etc. The writer's treatment should mean the treatment by irritants, whereas in the pages now before us it is represented to be carried out by stimulants. "The influence of diffusible stimulants in scattering, as it were, the earliest tendencies to internal congestion and inflammation, is familiarly exhibited in the effects of alcohol and heat upon persons benumbed with cold and beginning to suffer cold in some internal organs." It is true that immediately after this we read of external heat as belonging to the class of irritant medicines. Surely that degree of heat which is proper and grateful in such circumstances is anything but irritant—it is a mild stimulant. The first of these designations can only be applicable to an extreme degree of heat, either dry or moist.

Dr. Stillé seems, in making out the class of irritants and in his reasoning on irritant medication, to have followed pretty closely MM. Trousseau and Pidoux, (*Traité de Therapeutique et de Matière Medicale,*) who divide the subject into four sections, viz., the substitutive or homœopathic, the transpositive, the spoliative, and the exciting. How very arbitrary is one of these several terms to designate the action of irritants will be at once apparent after we shall have given the definition of spoliative by these writers, in connection with irritant medication. "There is spoliation, in the therapeutical sense, whenever the blood is made to part with one or more of its elements in proportion greater than occurs in the normal movement of organic composition and decomposition." According to this showing, then, blood-letting, purgatives, diaphoretics, and diuretics, are spoliatives; but do they come under the head of a separate class called irritants? MM. Trousseau and Pidoux restrict, however, the terms spoliative medication to that which is brought about by means of suppuration—a narrow restriction to a word of such large meaning. So, also, we would ask, whether "exciting medication" is not a treatment by stimulants rather than by irritants? In fine, there cannot but be continual embarrassment in attempting to explain, as possessed of analogous properties, the therapeutical operation of substances of so contrasted a character as irritants proper, whose primary action is displayed almost entirely on the skin, on which it produces high irritation and disorganizing inflammation, and a large number of stimulants, some tonics, and a few refrigerants which are taken into the stomach, and through it act on the whole animal economy in modifying excitement and nutrition by safe, moderate, and easy processes. The title of any class of medicines, if intended to indicate their general attributes as curative agents, can only be properly deduced from their primary operation and subsequently ascertained effects when given in ordinary medicinal doses. If we refuse this standard, we should be obliged to designate a great majority of the articles of the materia medica as stimulants approaching to irritants in the first instance. If we adopt it, as is virtually done in most of the systems of classification, we must discard from the class of irritants in the work before us acetic acid as readily as we would citric and the vegetable acids generally, and place them, as Dr. Wood has done, under the head of refrigerants. The dietetic value and the use of acetic acid in febrile and other excited states of the organism, as laid down by Dr. Stillé himself, are in direct antagonism to effects which might be supposed to follow irritants. Even in its external application, when much diluted, it lowers the temperature of the body and quiets agitation in typhus and scarlatina. We would put in a similar claim, to some extent, in favor of the mineral acids, especially the sulphuric when largely diluted. Their more general use in various diseases places them under the head of tonics, and, in reference to the sulphuric acid, of astringents also. Although we may be unable to classify satisfactorily the fixed alkalies, we have no hesitation in withdrawing them from the company of irritants, with which they are ranked by the author, whose statement of their therapeutical effects, corresponding with the usually received ones, is not at all in harmony with the primary attributes which he assigns them. Better claim may be set up in favor of ammonia as an irritant, whether we regard its local operation when applied either in the form of vapor or mixed with water, or its general action. The mineral salts of silver, copper, and zinc in ordinary medicinal doses are essentially tonic, and are, we think, out of place in the class of irritants. The most favorable examples of this affinity are found in the vegetable and animal kingdoms; mustard and capsicum representing the first, and cantharides the second.

Passing to the next class, that of Tonics, we find them subdivided into specific, simple bitter, and stimulant tonics, followed by Tonic and Aromatic stmulants. Under the head of specific tonics most space is deservedly given to Iron, the therapeutical action and diversified remedial powers of which are succinctly yet clearly stated by the author, who investigates, at the same time, the relative efficiency of the several preparations of this metal. The entire section on the subject merits a careful perusal and study, so that the reader may make its contents his own. The same praise is well merited for the next section, on Cinchona and its preparations.* Did our space permit, we should like to justify our opinion by copious extracts—but we must pass on, if we hope even only to indicate the prominent traits of the entire work. Our object from the beginning has been to direct the attention of our readers to its unquestionable value, with a view of inducing them to study it for their own behoof, rather than for us to attempt to give a miniature likeness or to make our gloss a substitute for the outpouring lessons of the erudite author. If occasionally, in traveling over its pages, we use the pen critical, it is in the same spirit and to the same purport in which we would hold discourse with him in his or our own study; feeling all the while that, even if our criticisms be correct, his treatise has body, and strength, and life to bear any pickings or even jerks to which we or others may subject it.

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* Dr. Stillé, in quoting the writers who believe in the sedative operation of cinchona and its salts, has omitted Dr. Bell, who, in his published lectures on the practice of physic in connection with those of Dr. Stokes, 1840, denies that quinia can properly be called either a tonic or a stimulant, but that it is to all intents and purposes a sedative, and as such displays its curative powers in periodical fevers in which irritation is the predominant pathological state of the organism. (See Stokes and Bell, Lectures, first edition, in one volume, p. 592.) Dr. Dickson, in writing on the subject, thinks that the priority of view of the sedative operation of quinine is due to Dr. Bell.

The subject of General Stimulants, which constitute the fifth class in the present work, is agreeably and tersely introduced in language which we had marked for insertion, but our waning space compels us to change our purpose. A reference to the volume itself will enable the reader, after perusing these explanatory remarks, to appreciate the difficulty of classification, at the same time that he will find arguments by the author himself, especially on the *modus operandi* of heat and of electricity, directly bearing us out in the criticisms which we offered on his application of the term irritants to what we regard as really stimulants.

First among the general stimulants whose effects are described in the present volume comes "Calor—Heat." "The term heat is used as a synonym of *caloric*, and is also applied to the sensation which caloric produces. Thus it stands both for cause and effect. Nor is this double application of the term attended with inconvenience in ordinary language, for we know nothing of caloric except through the phenomena of heat." The first division is of dry heat, in which are considered "the mode of action and the phenomena of radiated, solar, and artificial heat, of hot, dry air, and of heated solids." Notice is taken of the hygienic influences of insolation; and the physiological and therapeutical effects of dry air are illustrated by references to various experimental observations on the subject. Among the diseases benefited by this latter agency, are rheumatism, and, in a very marked manner, wounds. Dr. Guyot, after experiments on animals, and observing the influence of the remedy on the cicatrization of wounds of hospital patients after operation, draws the conclusion "that wounds without any dressing heal more rapidly in air of a temperature of 86° Fahrenheit than at a lower temperature, without dressing." Having spoken of the remedial action of the actual cautery, he describes that of *Mayer's hammer*, as of an analogous character. It occasions, after being plunged into boiling water and then applied to the skin, acute pain and an eschar. At a temperature of 130° there is permanent rubefaction; and at 120° the rubefaction continues only about an hour.

Under the head "Heat Combined with Watery Vapor," we read a description of vapor baths, general and local, and of their use in disease. The author errs somewhat when speaking of the fashion of vapor bathing "in Eastern countries:" his description applies to that of the people of the

North, more particularly the Russians. The succession of benches from below upward is found in the latter but not in the former. Turkish warm and hot bathing consists for the most part of exposure to a heated air of gradually increasing temperature, in which the bather is placed while passing from one room or hall to another; the process being completed by friction, shampooing, and the affusion or washing with warm or cold water, as may be most agreeable to the bather. The manipulations just mentioned are not, with the exception of strigillation, accessories peculiar to the Russian vapor bath. The Egyptians, says Prosper Alpenus, as quoted by Dr. Bell,* "visit the bath to sweat, to be rubbed, and to be washed, three processes gone through in different apartments and with different appliances." When at the bath, or rather bath rooms, the Egyptians, on the same authority, eat and drink, and take physic in its various modes.

A more regretable error occurs in Dr. Stillé's confounding the warm with the hot water bath, as has been done by some of our best medical writers—a fact attributable, in a great degree, to the irregular and imperfect use of bathing in general, either as an agent of hygiene or as a remedy for the cure of disease. "*Warm* water," we are told by the author, "is most usually employed as a bath at about 106° Fahrenheit." Water, we affirm, when used of this temperature, is unmistakably *hot*, and becomes a powerful stimulant, exciting both the vascular and nervous systems; and as such it is only applicable to states of torpor and inertia, cold skin and languid circulation, and to persons of a phlegmatic temperament. The warm bath proper, varying from 92° to 98°, is, on the contrary, soothing and tranquilizing, and for the most part inclines to sleep. Its stimulant power is slight, and it might rather be called a sedative, in its lower degree. Its reputed invigorating effect is owing to its abatement and removal of irritation and slight febrile excitement left by fatiguing travel or prolonged exercise. Very different from this are the effects of the author's warm bath, which he speaks of as "at a temperature of 100° to 110°," and which is in fact not only a hot, but a very hot bath, wholly inapplicable and contra-indicated under all the circumstances in which a legitimate warm bath is proper and useful. Again, the standard changes in the hands of the author, who tells us that chronic diseases of the skin, particularly of the scaly forms, are benefited by prolonged warm baths (at 96° to 100° Fahrenheit.) We are obliged, also, to criticise the definition furnished by the author, in degrees of the thermometer, of the tepid or lukewarm bath, which he makes to range from 85° to 95° Fahrenheit, and which is an encroachment on the limits of the warm bath of three degrees. There are, it must be acknowledged, difficulties in affixing precise limits to the different divisions of baths, more particularly the cold and the tepid, but there may be, with a little care and observation, some approach to a standard, based on sensation, which will be generally recognized. In one, the upper direction, is "a boundary at which all difference of opinion depending on feeling ceases, it my be called that of unvariableness of temperature, and corresponds with the animal heat. This last is, with slight differences, everywhere the same; and a watery fluid of this temperature will impress every person immersed in it in very nearly a similar manner. A bath of 95° to 97° Fahrenheit will be called warm, both by the Laplander and the intertropical African."* In the opposite and lower direction, there will also be a common standard derived from sameness of sensation of coldness, experienced by those who use a bath under 70° Fahrenheit. "The shock will be evident, and there can be no hesitation in our designating it cold," although it will not be of that persistent nature which would be caused by water of a lower temperature, and it will be followed much more promptly by reaction than in the latter case. In a practical point of view, the difference between the tepid, the warm, and the hot bath, in their therapeutical action, are analogous to those between water, weak brandy-water, and the raw liquor itself.

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* Baths, etc., p. 149.

The subject of "Electricity," the next general stimulant, is brought up, as might be expected, from the reading of the author, to the knowledge of the day. The various forms in which mechanical electricity is used are specified, and the mode of deportment, physiological action of galvanic or voltaic electricity, and induction are described. So also, magnetic electricity and induction electricity are explained. This is followed by an explanation of the modes of employing voltaic and magnetic electricity, and an enumeration of morbid conditions in which it is employed. The entire section has more freshness and fullness of detail than is met with in systematic courses on therapeutics and materia medica.

The next of the general stimulants is "Vinum—Wine." One might ask why not take up alcohol first, as representing the potential as well as medicinal and poisonous element in both wine and all fermented, as well as distilled liquors, and then treat of them in succession as subdivisions? The author has probably had in view, in making the existing division, the historical order in which the two classes of drinks—the vinous, which represents all fermented ones, and the alcoholic, which stands for ardent spirits—were brought to the notice and use of mankind. After a lucid notice of the history and dietetic use of wine, and of the various kinds now procurable for the table—their manufacture, constituents, and action on man—their uses are described in a therapeutical point of view.

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* Bell on Baths, p. 163.

"Alcohol" is discussed in a similar manner, but with more minuteness of inquiry into its toxical effects as an inebriating agent, and its possible or probable use as an article of hygiene. The phenomena of primary and occasional intoxication, and the effects of intoxication, are fully described. The author does not advocate the habitual use of alcoholic liquors. How indeed can we recommend, or even tolerate, as far as silence on the subject goes, the habitual use of a liquid which consists, in part, of one of the most active poisons known? There is no analogical reasoning to bear us out by reference to the composition of the various kinds of food habitually used by man for his nourishment. The use of alcoholic liquors as a beverage, without, in all cases, direct disease or manifest deterioration of bodily and mental vigor ensuing, is only an evidence, among others, of the wonderful powers of the human organism in tolerating and resisting deleterious and poisonous agents; but it ought not to be received, for a moment, as an evidence of these liquors being endowed with any safe sanatory activity when habitually used. There is no condition of the animal economy, either strength of body or of mind, endurance of heat and of cold, the most exhausting labors and exposures by sea and land, bravery in the field of battle, wisdom in council, the sublimest exhibitions of genius in every department of science and the arts, and the noblest creations of the imaginative faculty, but what have been evinced without any aid from the spurious inspiration of the juice of the grape or the alcoholic products of the still. Against the habitual use of alcoholic liquors of any description, though they should bring their alleged pleasures, stand the daily risk of perverted and disordered functions, and the constant danger of acquiring fixed and incurable habits of intoxication and all its dire concomitants and effects,—destructive not alone of the intellectual and moral character of the sufferer himself or herself—for woman is not exempt—but of the peace of mind and social position and means of living of relatives of the household, and not seldom of friends beyond it.

"Narcotics," furnishing subjects of very difficult handling, are treated by the author. The section on opium is both full and instructive, and is of itself enough to insure a favorable reception of the entire volume, even were its other contents of an inferior character, instead of being as rich and varied as we have described them. Narcotics in Dr. Stillé's arrangement come first under the sixth class, or "Cerebro-Spinal Stimulants"—Antispasmodics constitute the second division. In this are included the history of the origin and extensive application of etherization and of chloroform—subjects of great moment to practitioners in all the departments of medicine and surgery.—Spinants, (Tetanica,) the seventh class, are represented by Nux Vomica, Strychnia, and Faba Sancti Ignatii. Classes eighth, ninth, and tenth represent successively, general sedatives, arterial sedatives and nervous sedatives. The most important among the general sedatives, and that treated most in detail, is "Frigus—Cold." The history of opinions and of the therapeutic uses of this powerful agent are brought out quite distinctly by the author, whose inferences on some points we might contest, were opportunity allowed us for stating our reasons of dissent. Dr. Stillé's usual accuracy of reference to an author's work is at fault in the instance of the treatise of one of his own countrymen and fellow-citizens. We find at the foot of page 256, among other references, "Bell on the Watery Regimen." The real and known title of Dr Bell's volume* is "A Treatise on Baths, including cold, sea, warm, hot, vapor, gas and mud baths. Also, on the watery regimen, hydropathy, and pulmonary inhalations, etc."

Notwithstanding the opinion of Dr. Stillé, that "diluted hydrocyanic acid," another general sedative, "has just claims to confidence in the treatment of several diseases," and the corroborative testimony which he subsequently furnishes, we lean to the belief of MM. Trousseau and Pidoux, that this medicine "is often dangerous, almost always useless, and very rarely curative." Palliative and soothing it may be, but rarely shall we find it exert a positively controlling and permanent influence over an established disease. Its volatile nature and the great danger attending its use in doses beyond a very low standard, and from difference in recognized formulæ, ought to be balanced by very decided therapeutic powers. At the most, it is of some service in certain forms of neuralgia.

Among the "Arterial Sedatives," the only examples adduced in the work before us are Digitalis and Veratrum Viride, both of them modern, and the latter of the two a recent remedy. We object to the appositeness of the title as conveying too limited an idea of the physiological as well as therapeutical effects of the articles classed under this head. Attention must be directed to the very capricious and irregular action of digitalis, which was at first supposed to be antiphlogistic and a substitute for venesection and other evacuants, and is now thought to be best adapted to cases of feeble action or reduced excitement. Its most tranquilizing operation on the circulatory apparatus is on the heart much more obviously than on the arteries, and primarily through the nervous system. The same claims have been set up for veratrum viride as were at first urged in favor of digitalis, and experience will, we think, lead to the same conclusions in regard to the real pathological state removed or relieved by the former as have been reached already in the case of the latter. No mention is made by Dr. Stillé of antimonial preparations, and especially tartar emetic as an arterial sedative. We had long taught, and practiced in the belief, that tartar emetic had considerable reducing powers as a direct sedative or contra-stimulant in various phlegmasiæ—before Dr. Wood had received it in his course of materia medica as an arterial sedative. The question is fully examined by the author under the head of Emetics, when speaking of antimonii et potassæ tartras.

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* First edition.

The class of "Nervous Sedatives" includes medicines of great powers, two of which, Aconite and Veratrum Sabadilla, have come into large use of late years; while another, Conium, does not enjoy the vogue that it did in the last century. Tobacco, which is in this class, affords another example analogous to that already pointed out in the instance of alcohol, of one of the most active and speedily fatal of all poisons being habitually used by vast numbers of the inhabitants of our globe for its power of producing luxurious enjoyment and for its alleged hygienic efficacy. Such is its extreme activity of action on the human organism that we cannot be said to have yet obtained any satisfactory control over it as a therapeutic agent, except in an exceedingly small number of diseases. In others, as in strangulated hernia, its administration has been at different times attended with fatal consequences.

We cannot follow the author in the next great class of "Evacuants," and their subdivisions into those which act on particular organs or organic systems. Many nice questions in therapeutics come up for discussion and elucidation in speaking, for example, of emetics, cathartics, diuretics, diaphoretics, expectorants, and emmenagogues, and many interesting specifications of particular operation and curative powers of individual articles under the several divisions just named. We miss in the list of purgatives calomel, which only finds a place in the last class of the series, or that of alteratives. The omission is a great one, and for which we find no explanation.

Fine themes for discussion are afforded in the class of alteratives, each of the first three in which—mercury, arsenic, and iodine—would furnish material for a separate volume.

We need not sum up the opinions which we have expressed, in different parts of this review, of the undoubted merits of Dr. Stillé's treatise. It is one which ought to be in the possession of every practicing physician who himself has no time for extensive reading, but who, nevertheless, ought to be acquainted with the current views entertained, and positive conclusions reached, respecting the therapeutical, we might say available value of each and every article of the materia medica, as determined by clinical experience. If we were to entertain a wish for something additional to the obvious riches of the work, it would be a more frequent and decided expression of the author's own views. At the same time, it must be admitted that reticence in this respect is far preferable to the assumption of superior knowledge and the dogmatism of imaginary experience, which, we fear, is sometimes obtruded on us by writers who seem, while thus speculating beyond measure on the credulity of their readers, to forget entirely the sacred obligations under which they are placed, the moment they take on themselves the office of teacher in whatever relates to the health and cure of diseases of their fellow-creatures. Life is too valuable to be made a stake for games of paradox and the fitful suggestions of imagination.

Art. III.—*Footfalls on the Boundary of Another World. With Narrative Illustrations.* By Robert Dale Owen, formerly Member of Congress, and American Minister to Naples. 12mo., pp. 528. Philadelphia: J. B. Lippincott & Co., 1860.

We can scarcely, we think, be accused of transgressing the proper province of a medical journal by admitting into it the review of a work of the character of that before us. Whether the phenomena discussed by the author be admitted to fall within the sphere of the normal functions of man's intellectual or spiritual nature, or shall prove to be the results of certain diseased conditions of the material organs through which the operations of the mind are performed during man's present state of existence, they are in either case legitimate subjects for medical investigation.

The questions discussed by Mr. Owen are equally curious, solemn, and momentous. The very statement of them is sufficient to excite in the mind of all a feeling of the deepest interest. What relationship does man hold during life, with the disembodied spirits of those who have already passed from the present stage of existence? Is man subject to ultramundane influences, and what is the nature and extent of such influences? Can the immaterial portion of man's nature act, before death, independently of material organs, apart and at a distance from the body?

To neither of these questions has the author attempted to frame a definite answer. The entire course of his reasoning, nevertheless, indicates a strong inclination on his part in favor of the affirmative in respect to all of them. To establish the correctness of this position is evidently the tendency, in his estimation, of the several narratives of spiritual manifestation and interposition he presents: to the same end are directed the commentaries with which these narratives are accompanied.

With an assumption of the most perfect candor — disclaiming the slightest intention to undertake the support of any preconceived theory in relation to the subject, but professing to present simply a series of the best authenticated narratives bearing directly upon it, leaving each one to judge of these according to the claims they are found, after the closest scrutiny, to present to the character of credible facts, and to draw from them just such conclusions as it is believed they legitimately lead to—Mr. Owen, in the work before us, has prepared one of the most ingenious and seductive defenses of the reality of ultramundane visitations and influences—of suggested dreams and visions of a prophetic, monitory or advisatory character, and of the ability of the spirit that is in man to act independently of the material body with which, for all the ordinary purposes of life, it is conjoined. He has selected and arranged his evidence with consummate skill; while the commentary by which the different narratives adduced by him are followed and enforced is of a character the best adapted to compel his readers to the very conclusions at which he desires they should arrive.

With the nature and mode of being of man's purely intellectual or spiritual portion, and the manner and extent of its connection with the animal organism we have, it is very certain, but a limited and imperfect acquaintance. We are far from having made ourselves masters of all the powers and faculties of man's mind, or soul, or spirit, his immaterial portion, call it by whatever name we may. We know not but that it may possess faculties, and perceptions, and modes of being and of acting that have as yet been revealed to us but in part. It may be able, for aught we have the right to assert to the contrary, to perform many functions altogether independent of the material portion of the animal organism—to receive impressions from ultramundane influences by other routes than those of the senses—to see and hold communion with disembodied spirits—to pass out for a season from its clayey tabernacle and assume a visible form capable of moving, speaking, and acting without the intervention of material organs—to be uninfluenced in its perceptions or actions by time or space, so as to know what transpires in the most distant places, and to look forward upon the events of the future long before they happen.

It is not our province to stamp with the seal of falsehood any narrative which is presented in proof that the spirit of man does really possess the powers and faculties above enumerated, in apparent good faith, by those whose veracity is unimpeached, and in whom we can detect no motive sufficiently powerful to induce them to deceive themselves or others. We have no authority to reject as unworthy of credence anything adduced as fact merely because it is not in accordance with our experience or does not accord with our conceptions of what is true. It is our duty, however, to examine into the probability of the evidence which is urged upon our acceptance in support of any and every proposition, and into the competency of those from whom it is derived.

An individual may tell us—and really believe that he is telling us the truth and nothing but the truth—that he saw certain objects, was present amid certain scenes, had heard certain voices or sounds, or experienced certain impressions, and yet from many causes may be an incompetent witness, either from the character of his mind generally, or its particular state at the time being,—from some predominant idiosyncrasy or special abnormality of his sensations and observing faculties generally,—or from the simple fact that his powers of observation are undeveloped or not properly educated, and, in consequence, loose, superficial, and inexact, if not positively false. The simple qualification of veracity, combined even with the very best intentions, is not in every instance all that is necessary in order that the statements of an individual shall be received as the certain exponents of absolute facts. To admit him as an unquestioned evidence, we must be sure that his observing and judging faculties have been properly cultivated; that they are without any undue bias from education, superstition, or fear, and have not been rendered unapt to appreciate the actual and the true through some defect in the organs through which images and sensations from objects without are transmitted to the mind.

We know that it is possible for truthful, honest, well-meaning persons to see men as trees walking, to hear strange words whispered in the sighing of the breeze upon the ocean strand, or groans and cries of anguish, "as of suffering or grieved spirits," in the natural sounds that occur, amid the recesses of some unfrequented forest; or when awed by the unreal imagery by which the hours of sleep are often haunted to have revealed before their mental sight, visions, as they believe, of things intended to be done by others—of things about to happen to themselves, or of events that have already transpired or are about to transpire in their own vicinity or at a distance.

The senses of some men always play them false—deceiving them continually in respect to the forms, and colors, the nature, conditions, and relations of the objects upon which they look. Many mould all things that meet their vision after the ideal patterns that they have formed and treasured within their minds; while others look with open eyes upon the objects that are before and around them, without in truth observing them, so that when they turn aside from viewing them, as these have failed to make any distinct and definite image upon the mind, they forget entirely what manner of things they were.

In reference to the most common every-day occurrences which fall within the appreciation of every one, how difficult is it to obtain correct and reliable accounts! Now, how much greater must be the difficulty in reference to things of an unusual, obscure, and startling character—calculated to excite in the coolest and most courageous beholder deep fear or the profoundest awe! If, then, as we all know does occur frequently, the accounts given of the same transaction by different spectators will differ from each other in the most essential particulars, even when the transaction is one of the most simple and familiar character, and all the spectators who testify of it are equally qualified and competent to observe and judge correctly, how are we to expect accurate, clear, and reliable accounts of occurrences of a most extraordinary character, seen always under circumstances the most unfavorable for deliberate and accurate observation, and by those who are themselves often predisposed to be led astray in respect to everything that differs materially from the known and the familiar?

All the external senses are constantly liable to perversion, either from some congenital defect of their organs, or as the result of some deep-seated, obscure disease. This is especially true of the sense of sight, which in different individuals—without any visible defect of the eye itself—has been found to be incapable of distinguishing aright the colors, forms, proportions, and relations of objects; mistaking often shadow for substance, or seeing in the open air, and in the full light of day, objects variously distorted, or images, distinct and clear and prominent to others, as though they were enveloped with a thin mist or by clouds or smoke. And yet, with all these sources of deception, we are called upon not only to receive as absolutely correct the accounts that are given of a variety of phenomena which are said to have occurred out of the ordinary course of things, but to admit as correct the explanation, also, of the relators in respect to their nature and cause.

Such are some of the difficulties which encompass, to a certain extent, most of the narratives of things, phenomena, and events claimed as pertaining to the spirit or soul of man when acting independently of his bodily organs, either previous to or after death. They are sufficient to throw around such narratives a reasonable doubt as to their entire accuracy, though it is admitted that they are alone insufficient to invalidate them entirely. But if, in connection with the defect alluded to in the evidence upon which the narratives are based, they are justly amenable, also, to the charge of improbability, then we are bound to reject them until the difficulties in the way of their reception as truths be satisfactorily removed. How far the evidence in support of all or any of the narratives collected by Mr. Owen may be viewed as defective, and to what extent they may be pronounced improbable—not because of their unusual or mysterious character, but from the inconsistencies apparent on their very face—we leave to the decision of all who may be inclined to submit them to a severe criticism, the test of which many of them, we fear, would scarcely stand.

In regard to all supposed supernatural occurrences, we have a right to demand fuller and more detailed accounts than those with which we are usually furnished. To their satisfactory solution, it is essential that we should be put in possession of many preceding and contemporary facts which, if not withheld entirely, are in nearly every case related with great looseness, and in a manner which proves that they have not been subjected to any systematic or close investigation. We are thus deprived, in most instances, of the only means by which it is possible to solve the mystery in which many of the narratives adduced as evidence of spiritual agency would seem to be involved.

An argument in support of the truth of ultramundane influences and various forms of purely spiritual agency in the affairs of men is drawn from the universal belief in them which has existed among all peoples, and, so far as our knowledge extends, in every age: so that hosts of stories of ghosts, apparitions, and visions, confessedly of the most questionable authority, have been received by the masses, without the slightest doubt being entertained as to their authenticity. Now it is argued that if there had never actually occurred an instance of ultramundane influence or spiritual agency in respect to the individuals of our race and their affairs, no credit would ever have been awarded to the tales invented in illustration of such occurrences. The argument, however, is of little force. It is not necessary that the spirit, unclothed with flesh and blood, or airy shapes from the realm of death, should have presented themselves before the natural eyes of man when wide awake, or to his mental vision when his external senses are "fast locked up in sleep," in order to create a belief in spiritual appearances and influences. The rise of that belief has not been in the real, the actual, the positive, but rather in the imaginary, the unreal, the visionary. The originals after which all the tales of ghosts and spectres—the warning and prophetic appearance of departed or absent friends or enemies, admonitory or suggestive dreams, ultramundane communications; the entire stock, in short, of ghostly literature and tradition—have been modeled after, are to be sought for, in fact, in the ocular spectra, which, under various circumstances, form themselves before the eyes of men or upon the mind, when the visual organs are shrouded in sleep, and with so exact and vivid a semblance of reality, as to leave scarcely a doubt that they had been transmitted to the mind through the sight from corresponding objects having a positive existence without. As such they have been received, not merely by persons of exalted imaginations, strong prejudices, and slight intelligence, but by those also of unimaginative, practical minds, unquestioned veracity, and cultivated intellects. But, it may be asked, are we warranted in ranking every instance adduced as one of a purely spiritual character with these chimera—the offspring of disordered vision, or of a partial and disturbed action of the mental functions? We have no intention to reply to the question with a positive affirmation or negation; all that we insist on is, that every reputed instance of the kind shall be subjected to that close and cautious investigation necessary to determine its real character—whether it in fact have its origin in ocular spectra, in mental illusion, or in spiritual agencies and influences altogether independent of natural organs.

There is an all-important question to be solved—one standing, indeed, at the very threshold of the investigation to which we have been invited by Mr. Owen in the work before us, and without a satisfactory solution of which every step we attempt to make in search of the true doctrine in respect to the spiritual influence and agency, said to be exercised between persons who still live upon the earth, must be in the dark; and that question is, can, under any circumstances, the immaterial, the spiritual portion of man, his soul or intellect, appear in a visible shape, separate from the material body, during his continuance in this world? Is it possible for it, excepting through the instrumentality of material organs or means, to act upon persons near or afar off, so as to reveal itself to the latter, to communicate with them intelligibly, or to influence them in any manner whatever?

Judging from all the facts to be derived from the domains of physiology and pathology, from our personal experience, and that of the great majority of those who have written or spoken on the subject, we shall have to answer the question referred to in the negative. So intimate is the connection between man's moral, intellectual, or spiritual nature and certain of his bodily organs, that we find its development to keep pace with the development of the latter, and to receive always from them a sensible modification according to their condition as to health or disease; nay, to become entirely suspended in all its manifestations—extinguished, as it were, when the organs referred to are the seat of certain lesions. Pitcairn tells of a beggar, whose brain had been laid bare in consequence of the removal of a portion of the skull, whom the students of the medical school at Edinburgh used to experiment upon by subjecting the brain to pressure, gradually increased to an extent compatible with the entire safety of the patient. The invariable effect of pressure applied to the brain in this case, was to throw the individual into a condition of complete unconsciousness, which continued as long as the pressure was kept up, and ceased as soon as it was discontinued. A friend of ours while riding was thrown from the back of his horse, and experienced in consequence a severe concussion of the brain. He remained for nearly five days in a state of unconsiousness. After he had entirely recovered the exercise of all his faculties, he assured us that, during the whole period intervening between his fall and his return to consciousness, he felt nothing, saw nothing, heard nothing, knew nothing; that he was as though he had no being. On coming out from this state, as it were, of deep dreamless sleep, he connected the time when he awoke to consciousness with the moment of his accident—the whole of the intervening time had, as far as he was concerned, been completely annihilated. Many cases precisely similar are on record. Now, if man's intellectual powers, which we presume will be generally acknowledged as intimately connected with his spiritual or immaterial nature, are so closely joined with his material organs as to suffer from every disease and derangement of the latter, is it reasonable to suppose that the spirit possesses the power to disengage itself from the material organism, and perform some special mission apart and independent, it may be at a long distance from the latter, either without the volition of him to whom the spirit appertains, when prompted by intense desire or some strong moral impulse, or else in obedience to the dictates of a determined and irresistible will?

History and biography furnish us with numerous instances in which individuals of determined purpose and iron will, worthy people too, and of good report, have been so circumstanced that, for the vindication of their character, for the preservation of their lives, and for the safety of those near and dear to them, there was a pressing necessity they should communicate with certain persons, but were prevented from so doing by physical force. Now here are precisely the instances where we should presume that the spirit, if it have the power, would assert its independence of the body, and perform the much-desired errand of mercy. But history and biography commemorate no such good performed by the spirit as a disembodied spirit.

By all believers in the power of man's spirit to emancipate itself during life from the body, and to act independently of it, an effort is made to prove that it is continually active; that under all the circumstances of life it is so far independent of the animal organs that, during the physiological state of repose into which these periodically fall, it slumbers not. That, consequently, the mind being always active during sleep, sleep is never dreamless, although it is not always that the events, thoughts, and emotions of dreamland are remembered by the individual upon awaking. Even were this position susceptible of proof, it would be very far from establishing the independent and unceasing action of the intellectual portion—the spirit, soul, or mind of man. Dreams, properly speaking, it has been very clearly shown, never occur during that state of complete quiescence in which all the organs, save those which are removed from out the dominion of the will, periodically sink, in order that by repose their powers and energies may recover from the exhaustion incident to the active exercise of their functions during the waking state. Dreams consist in nothing more or less than disjointed images and broken chains of thought revived in the mind of the sleeper, in consequence of certain of the cerebral organs having regained a greater or less degree of activity, during a period when external consciousness and the judgment remain dormant. They are invariably founded upon images and thoughts pre-existing in the mind of the sleeper, but when thus revived, during a state of partial or imperfect sleep, they become grouped, commingled, and distorted into a medley of inconsistencies and contradictions, as is apparent to every one upon a careful analysis, after waking, of the most coherent and vivid of his dreams.

Dreams cannot be adduced as examples of intellectual or spiritual action independent of the material body. They consist evidently of a series of phantasms beheld by the mental vision, exciting often fear or disgust, admiration or joy, approbation or condemnation.

> "In dreams," very aptly remarks the venerable Parr, "we seem to reason, to argue, to compose; and in all these circumstances, while the dream lasts, we are highly gratified, and think that we excel. If, however, we remember our dreams, our reasoning we find to be weak, our arguments false and inconclusive, and our compositions trifling and absurd. Some metaphysicians have supposed that from age and reflection our dreams become more consistent and philosophical, and have even supposed that the mind during sleep retains its wonted powers or even augmented powers. We are willing to believe that, from age, our minds wander less when dreaming, but we suspect this arises from the sleep being then less perfect, and not from any experience acquired in 'the art of dreaming.' We certainly fancy in our deams that a given image is new, but if we can retain it when awake, we find this opinion arose from our imperfect recognition, and we shall then, perhaps, be able to recollect its prototype. We seem to think, also, some place, which in fancy we see in our sleep, to be more beautiful and glorious than any which has before occurred. Yet on awaking we shall find this splendor a thing of shreds and patch-work, made up of heterogeneous and disjointed vestiges before offered to the senses."

It will be urged, no doubt, that during the state of dreaming musical pieces have been composed, poetry has been written, and the most intricate problems in mathematics have been solved, and with a facility and in a style far exceeding anything of a similar kind before attempted by the same individuals during their waking hours; and it will be insisted on that this can be accounted for in no other way than by attributing these splendid efforts of the dream state to an increase of power and of clearness in the intellectual powers of man, when these are emancipated from the dominion of the material organs in consequence of the inactive condition into which the latter are cast by sleep.

We admit that the most brilliant and extraordinary mental achievements have been executed by persons who were at the time in a state of supposed sleep; but we believe that the supposition has in every instance been founded in error. So far from the individuals by whom the intellectual feats to which we have alluded were performed being immersed at the time in sleep, sleep, in the proper acceptation of the term, was afar from them. Their condition, we apprehend, was one of complete mental abstraction: their minds were withdrawn entirely from, and their senses closed, as it were, upon all the material existences by which they were surrounded, and the full force of their intellectual powers, with naught to distract or turn them aside, were concentrated on a single subject. Working thus, with a degree of energy that can never be equaled out of the state of abstraction to which we refer, it is not at all surprising that the mind should then execute tasks in a manner which at all other times is found to exceed its ability.

A very pertinent query suggests itself, and that is as to the condition of those whose spirits are supposed to have gone forth on missions of mercy or of retribution, of prophecy or of warning, during the period when the spirit is absent from the body. Take for instance the female teacher of whom Mr. Owen tells us, whose spirit is said to have occupied her usual seat in the school-room on occasions when her body was walking and culling flowers in the garden, or the man whose spirit we are told left his body on board a ship in imminent danger of being crushed by an iceberg, while it went afar over the bosom of the ocean in quest of relief for the ship's crew. We would inquire, and we insist that the inquiry is a proper and reasonable one, what was the condition of the body in these instances after the spirit had left it, in respect to mental or intellectual manifestations? Was it in a conscious or unconscious state? Were its actions, supposing it were capable of any, merely automatic, without the guidance of reason, without object or purpose? It certainly will not be asserted that an individual is able to act, and converse and reason as well when his spirit has gone out of his body on a visit to some other spirit, in or out of its proper body, as when it is at home within its own earthly domicile.

The ability of man's immaterial intellectual portion to act independently of and at a distance from his material portion, depends, it is assumed, upon the fact that man possesses two distinct bodies, a spiritual one and a material one, the one being to a certain extent the similitude of the other. Now in all the accounts that are given of the appearance of the spiritual, distinct from the natural body, it not only bears a general likeness in form, carriage, and lineaments to the person to whom it appertains, but it is described, usually, as being clothed in garments similar to those which the latter, or persons of his or her age and condition in life, are known to wear. Are we, then, to infer that the garments men wear have also two bodies—that all, whether it be the full armor of the warrior of the olden times, the full-bottomed wig, broad skirts, slashed sleeves, and ample costume of the ancient gentleman, or the more familiar attire of our contemporaries, to say nothing of female dresses, from the times of our remotest ancestors to the present, have alike a material and a spiritual portion, capable of separation, the one from the other? If such be not the case, what then, we ask, is the nature of the raiment with which the spirit, when apart from the body, is invested? Is it material or immaterial? It has been described as having, in certain cases, had the look of some particular stuff used for clothing, and as giving some indication of substance to those who attempted to grasp it, or against whom it accidently brushed in passing. Is it supposed that the spirit, when it is about to leave for a season the body of some unconscious sleeper, comes forth with the similitude of the garments usually worn by the latter, or does it appropriate to its use some immaterial pattern of these after it has become disembodied? It will not do to insist upon the actuality of supposed spiritual appearances, and at the same time to admit that the clothes with which they are clad are mere ocular spectra. Upon the doctrine that this latter is the true character of all these appearances, everything in relation to them, whether it be clothing, deportment, or facial expression, will be found to have an immediate and appropriate connection with the circumstances under which the spectra are brought before the mental or material vision.

We have a firm belief in the complex nature of man. We recognize him as a being composed of a material organization, changeful and perishable, and an immaterial mind, soul, or spirit, ever existing, immortal. But we believe that these two natures are, in this state of existence, intimately knit and bound together, so that they alternately influence and are influenced by each other, and that it is only after the dissolution of the first that the latter is capable of enjoying an independent existence. It appears to us, from all that can be learned of the physiological and psychological history of the human being, that so long as his earthly career endures, his immaterial portion, his mind, soul, or spirit, acts and is acted upon only through material organs.

We controvert not the declaration of St. Paul, that "there is a *natural body*," and that "there is also a *spiritual body*," for every individual of the human family. But, with St. Paul, we believe that no one has been or can be invested, under any circumstance whatever, with "the spiritual body," until by death he becomes freed from "the natural body."

The question now presents itself, has any one, after he has become, by the death of the material body, invested with that which is spiritual, ever appeared to those who are still in their natural bodies? The possibility of such an occurrence we have no right to question. We can see nothing improbable in the belief that, for the accomplishment of some important mission, having in view the moral good of a human being, the departed spirit, say of a parent, husband, wife or child, or of some loving and beloved friend, may be prompted, and permitted to exert upon him or her its influence either secretly, or through some visible manifestation to the external senses or in the similitude of a dream. In this we can see nothing improbable. With our present views of the nature and probable occupation of the spirits of the departed, we cannot, however, believe that they are ever permitted to intermeddle with the affairs of mortals on the most trivial occasions, as some of the stories told us would lead us to suppose, or even, on occasions, with no possible object in view, certainly with no results sufficient, as would appear to us, to call for spiritual influence to secure their accomplishment. Far less can we suppose it possible that disembodied spirits would come from the state beyond the grave to commit any of the many follies that have been ascribed to their agency—to disturb the peace and quiet of decent and well-governed families by the production of mysterious and discordant sounds—by causing furniture to be thrown about in wild disorder, or by inflicting secret blows upon the domestics or other inmates of a house.

If the spirits of the departed ever do come to minister to us from beyond the grave, or to bring to us a message for our good—to admonish us of sin, to warn us of impending evil, or to snatch us from the machinations of some secret enemy, we feel persuaded that their coming will be invariably in such a form and manner as to give solemnity and weight to their mission—the object of which will be accomplished by them with a directness and clearness calculated to leave no doubt or mistake or misgiving in the minds of those who are its immediate objects. Spirits freed from earthly organs—pure intelligences, acting as independent essences, unimpeded and untrammeled by things material, cannot be suspected of performing their errands toward man—if such errands be ever performed—in so indirect and bungling a manner as do the imaginary spirits of which we read in books—of paltering with those with whom they hold communion in phrases of double meaning, like the oracles of old—or of dealing in insinuations and suggestions of only dark and equivocal import, in place of speaking out in simple, unequivocal language whatever they have to communicate, whatever they desire of those they visit.

We are pointed to the histories which have been given to us, upon the authority of intelligent and veracious individuals, as proof that the spirits of the dead have appeared to mortal men, and on appearing have conducted themselves in the very manner in which we contend they would not have done, had they been truly visitors from spiritland, and that too, in the presence not of a single witness, but of many—not alone, in the silent watches of the night, nor in the dim twilight, but in the open fields, the thronged thoroughfare, and the light of day. Not once only, but repeatedly, and in a manner to preclude mistake.

We are well aware that all this is told, and, in many instances, it may be, in perfectly good faith, by witnesses esteemed in every respect competent. We do not deny that many of the appearances and occurrences—the sights and sounds asserted to be of a spiritual character, were actually seen and heard by those who relate them. The question with us is not, were the things described witnessed, but rather, what was the true character of the things that were seen or the sounds that were heard? In classing all supposed spiritual appearances and occurrences as ocular or mental delusions, we by no means restrict their appearance to one individual at a time, although such is the fact, we believe, in respect to most of them. There are unquestionably many natural phenomena which may appear, at one and the same time, to a number of spectators, and make upon all of them the same impression, and nevertheless be nothing more than optical delusions—forms, often without substance, or, perhaps, substantial objects, of which the forms and general aspect have, for the time being, been essentially modified—or the objects themselves apparently displaced and disarranged, by some peculiar accidental arrangement of light and shadow, or by some temporary change in the dioptric properties of the atmosphere.

We are far from pretending to be able to give to all the accounts that have been published of spiritual interposition a clear and satisfactory natural explanation. We want the necessary data to enable us to arrive at any certain conclusion in regard to the true character of very many of them. Were we in every case put in possession of all that is requisite for the formation of a correct judgment, we have no doubt that the non-spiritual character of the whole of them could be easily shown. Still, the glaring contradictions, and the general improbability by which the more prominent of the narratives are characterized, are circumstances sufficient of themselves to warrant us in the rejection of them from the class of spiritual occurrences, even while we find ourselves at a loss in our attempts to develop their actual nature.

In confessing, as we have done, that there is no improbability in the supposition that the spirits of the dead are permitted, for some good and wise purpose, to exercise an influence over the inhabitants of this earth, we are by no means, however, forced to admit the appearance in any case of the disembodied spirit in a visible form, whether to the mental vision, during sleep, of those whom they would influence, or to their natural vision during a state of wakefulness. As efficient an influence could certainly be exercised through the similitude of dreams, excited by spiritual agency—through appropriate images awakened in the mind, or impressed upon the visual organs, or through certain chains of thought excited in the same way, as by the actual recognized presence of the spirit itself. The idea of the visible appearance of a disembodied spirit in human form, and clothed in the habiliments of every-day life, or in garments of any kind or material, is encompassed with so many difficulties, is replete with so many glaring absurdities, that a strong doubt of its correctness cannot fail to be excited whenever it is carefully and deliberately analyzed. We cannot conceive of a more incongruous image than that of an immaterial spirit clothed as a peasant or a prince, a warrior or a judge, a man or a woman of the present or of any former age.

The popular notions in respect to spiritual manifestations have always been gross and material, and they have been too implicitly adopted by historians of the supernatural. With the masses, spirits are something more than mere shadows—to them they appear as persons who had just burst from the cerements of the grave, and come forth like corpses "endowed for a brief space with semblance of life." To the unimaginative such a spiritual manifestation as that described in the Book of Job would be tame and unimpressive—" A spirit passed before my face: it stood still, but I did not discern the form thereof. An image was before my eyes, and I heard a voice." The Gællic bard never clothed the spirits of which he sang in the garments of his contemporaries, picturesque as these were, but in the clouds of the hills or in the mists of the valleys. Old Norburry, in one of his letters, describes a spirit just as it seems to us one must appear to mortal vision—if ever such a thing has or shall occur. "A form rose before me," he writes to his sister, the Abbess of an English convent, "compounded, as it were, of thin air; a flimsy yet distinct shadow, like that formed by the small fleecy cloud of summer, as it slowly floats across the azure skies, yet bearing a perfect semblance of our deceased parent as he appeared while living. No limb nor lineament could be distinctly traced, and yet the entire appearance, shadowy and unsubstantial as it was, sufficed to bring vividly before me the image of our father. It is impossible for me to describe to you of what and how the appearance was composed, and yet its totality was of a nature to suggest all that was requisite in order to convince me that the disembodied spirit of our beloved parent stood before me."

Of the appearance of disembodied spirits in a visible form to mortal eyes we have no proof; but, on the other hand, there are many reasons for doubt whether such a thing ever has occurred. Physicians are familiar with various abnormal conditions of the nervous system, attended with the most remarkable aberrations in the functions of all the external senses, in consequence of which not only are the most erroneous impressions conveyed to the mind of the objects and occurrence which actually fall within their range, but images, also, so vivid as to have all the semblance of reality, of objects and occurrences which in fact have no real existence. It is probable that there are many of the abnormal states of the nervous system which, together with the phenomena to which they give rise, have not been observed with sufficient accuracy to enable us to determine their exact nature and character. When we study attentively the phenomena of the abnormal conditions of the nervous system upon which depend double consciousness, hallucination, intense and prolonged mental abstraction, sleep-walking, ecstasy, trance, and many of the forms of delirium—conditions with which the physician is perfectly familiar, we cannot but become convinced that to aberrations in the functions, dependent upon disease of one or other of the different portions of the nervous centres and of their associated organs, are to be attributed the larger number, if not all, of the instances which have been adduced of spiritual visitations and spiritual influences, or of the action of man's immaterial nature, independently of his material organs. We know that persons in a state of ecstasy or trance, or of deep and protracted abstraction, have imagined themselves to be transported to some distant country, and there to witness occurrences that were recorded as having taken place in times gone by, or to converse with individuals of whom their sole knowledge was obtained from the report of others or from history; while others have supposed themselves to be snatched up into heaven and to have beheld its ineffable glories, in company with the souls of the just made perfect. We know, too, that many who have been the subject of these trance-dreams, on regaining their entire consciousness have recognized and admitted the unreal character of the imagery thus presented to their mental vision when in a cataleptic state. A few, it is true, have on the contrary insisted invariably upon the truthfulness—the actuality of all which they in such visions saw and heard.

It may be confidently asserted that there is not among all the narratives that have been adduced in support of ultramundane visitations or of spiritual influences and agency, with all the semblance they exhibit of thought, intention, and foresight, and even taking into account also their supposed relationship to certain subsequent events of which they would seem to be prophetic, a single one the prototype of which, more or less exact, may not be found in the phenoména exhibited by the sensual and intellectual functions when in a condition of disease.

While the foregoing considerations are sufficient to throw no little light upon the actual character of many of those occurrences which have been assumed to be of a spiritual nature by certain writers, they by no means, however, prove that man is not subject to an influence emanating from rational spiritual existences invisible to his senses.

Some years ago we read with deep interest a discourse, by an English divine of the name of Bronten, on "the future state of existence," and were most favorably impressed with the leading suggestions of the author as to the probable place and occupation of man's immortal spirit subsequent to the death of the body. It is well known that there are constantly around and about us a variety of subtile agents and forces, all of which exert upon organized and unorganized matter an influence of whose nature and full extent we are still ignorant, and by the operation of which the entire phenomena of life are controlled and modified to a far greater extent perhaps than we are yet aware. If, then, argues the author of the discourse alluded to, it be true that caloric, electricity, magnetism, gravitation, with the air amid which we move and breathe, and, it may be, many other subtile agents, of whose very existence we as yet dream not, but upon the constant operation of all of which our very being depends, may perform their wondrous offices in immediate contact with our bodies, while in their ordinary estate they escape entirely the cognizance of our senses, we cannot reject as impossible the supposition that the immaterial spirits of our departed relatives and friends may exist in an invisible and intangible state in our immediate vicinity. Nor can we deny, merely because we are unconscious of it, that these spirits exercise an influence over our thoughts and motives and impulses, that may, without absolutely controlling our actions, modify them in a manner adapted to increase our moral and physical well-being, and to an extent commensurate with our own willingness to be guided by the secret influence to which we are thus subjected. Without professing ourselves to be converts to the doctrine set forth by Mr. Bronten in the discourse referred to, we admit that it is one not devoid of probability—while it is, confessedly, replete with beauty and with consolation.

Mr. Owen insists that one advantage of the interference of the spirits of the departed in the affairs of men, is to convince us of the certainty of our continued existence after the death of the body, and to communicate to us some idea of the nature of that existence. Before we can be permitted to speculate as to the purposes to which spiritual manifestations and spiritual agency may serve, the actuality of such manifestations and agency must first be established; and perhaps we have a right to demand also the proof that a knowledge of the immortality of our souls, and of their condition when finally separated from the body, cannot be as fully acquired without, as it could be through the visitation or influence of disembodied spirits.

That man possesses an intellectual, spiritual, and immortal nature, distinct from the material organism with which, during the lifetime of the individual, it is connected, and through which its functions are performed —which spiritual portion is capable of a separate, active, and independent existence, when the body shall become disorganized and resolved into its constituent elements—are propositions most clearly deducible from revelation, while they are confirmed by all the evidence derivable from a study of the physiology of the human being in its widest bearings and ultimate results. All that we know of man, the more intimately we inquire into his nature the more certain it becomes that the mind or intellect, the knowing, comparing, judging, willing power, is a reality distinct from the body, independent as well of life as of mere organization, and that, consequently, man is to be viewed as a compound being, having, at the same time, two active, controlling absolute principles—animal life and intellectual life—"mysteriously united in an individual material frame, and running in parallel lines until the hour when death shall separate them."

What, however, is the exact nature of man's soul or spirit, his ever-enduring spiritual life—whether it consist simply of purely intellectual and moral perceptions and acts, or of a very subtile, ethereal substance, differing essentially from all that we are accustomed to recognize as matter, we have no means of determining with anything approaching to certainty. It is, nevertheless, a very probable supposition, that "the spiritual body," with which man is clothed in the resurrection, may be composed of some refined, exalted, and spiritual material, organized in a manner that shall render it incapable of change, and consequently of decay and death. That such is the case, we are perhaps warranted in assuming from the light, small, it is true, in amount, that has been revealed to us in respect to the subject, and from the seeming necessity of some such organization in order to insure the recognition and intercourse of disembodied spirits in the future world. From the so-called spiritual manifestations that have been recorded by various writers and at various times, it is very certain that we can derive no more fixed views in relation to man's future state and condition than from the sources we have indicated. The revelations said to have been made by spiritual agency of the condition of man's immortal nature, when set free from its earthly prison, are contradictory in the extreme—being nothing further, it is evident, than a reflection of the particular theological notions and metaphysical deductions of the persons by whom the supposed spiritual manifestations were observed.

Were not the argument for or against the reality of ultramundane influences or of independent spiritual agency, based upon the good or evil that may thence result to man during his present state of being, a very poor and inconclusive one, we should be inclined to show in opposition to the views advanced by Mr. Owen, and we believe it would be in our power to do so without much difficulty, that mischievous consequences of a very serious character would necessarily ensue were spirits, able and willing to perform the acts which are recorded of them, permitted to interfere with the affairs of human life.

In the foregoing imperfect and feeble review of a work replete, confessedly, with the deepest interest and no trifling power, we have not attempted to present anything having the semblance of an analysis of the several chapters in the course of which the author has gradually developed his views of spiritural phenomena and agency, nor of the very specious chain of reasoning by which he attempts to illustrate and enforce those views and to obviate the objections to which he is evidently conscious that they are amenable. Such an analysis would extend our notice of the book to a most unreasonable length. And for the same reason we have been unable to examine in detail the several narratives presented in proof and exemplification of the particular phenomena which are the subject of discussion, or to notice critically the special comments with which these narratives are accompanied.

To the correctness of many of the leading propositions advanced by Mr. Owen, we yield a willing assent, even when we are forced to deny the legitimacy of some, at least, of the important conclusions he has deduced from them. Instead of following Mr. Owen step by step throughout his inquiry, we have preferred to take up the subject of it in its more general aspect, and simply indicate what, in our opinion, constitute a few of the leading difficulties which stand in the way of our receiving as clear deductions from the facts presented, the particular doctrines to establish which is evidently the leading object of the publication before us.

One good may possibly be wrought by the work of Mr. Owen, besides furnishing us with the means by which a few spare hours may be most agreeably spent, and that is, by giving to the narratives it contains—the very best we presume that could be selected to prove the verity of spiritual phenomena—a wide circulation, and in a form and manner that will commend them not merely to the notice of the credulous, who delight in the wild and the supernatural, without stopping to inquire into its probability even, but to the serious consideration of those cool and inquiring minds who insist upon subjecting everything which demands their credence to the closest scrutiny and most searching analysis, and in this manner to provoke the eduction of additional facts and arguments in support or in refutation of the doctrines of spiritual manifestations and influences, so that the truth, on whichever side of the question it may lie, may be positively and fully established.

ART. IV.—*On the Injurious Effects of Mercury in the Treatment of Disease.* By S. O. HABERSHON, M.D. Churchill: London, 1860. pp. 86.

IF there is any error of which the medical profession has been peculiarly guilty, it is the too frequent and indiscriminate use of mercurial preparations in the treatment of disease. Precisely because these articles are among our most powerful and trustworthy remedies—because when administered some effect can surely be looked for—they have been resorted to until, as we firmly believe, their *abuse* is more frequent than their *use.* We write of what we have seen; our field of observation has been the Western States—a region where, from the prevalence of malarious diseases, some forms of mercury are peculiarly called for, and where their beneficial effects, as cathartics, have encouraged and sustained a resort to them. If our statement requires proof, we can point to it in the popular voice and action of the region of which we speak: the regular physician is known too generally as a "*calomel doctor,*" and a tribe of shamefully ignorant quacks, under the name of "eclectics," are thriving upon the popular prejudice against all other than botanical remedies.

We had hoped that this error was confined to our own country, and to this section of it, but we learn from a perusal of Dr. Habershon's book that it is committed quite as frequently in England, with all her hospitals for clinical instruction, and with those legal restrictions against men assuming the responsibilities of practice without due qualification, which we have not. According to our author's statements, mercury is abused in England as much as it can be anywhere, and quite sufficiently to justify the reproaches of French and German physicians upon the partiality of British practitioners for this heroic remedy.

> "For more than half a century the preparations of mercury have been employed in the manner suggested by Dr. Hamilton, and at length it is used with most unsparing hand; our text-books recommend mercury in almost every disease, and the inexperienced unheedingly follow the dictum: in acute and in chronic disease, in so-called inflammatory and non-inflammatory ailment, in abnormal conditions of the nervous, respiratory, circulatory, or digestive systems, in renal or cutaneous disease, in blood diseases or in injuries, mercury finds its advocates, and has been given as if it were the panacea of human disease."

* * * * * * * * * *

> "We find with some persons that, whatever the ailment, however produced, mercury is given; 'antiphlogistics' administered to prevent injury or to cure. Thus, a man receives a mechanical injury; he is mercurialized, as we have known, to prevent so-called inflammation taking place; there is headache, sometimes because the heart cannot propel the blood into the brain, (for there may be intense headache from exhaustion as well as repletion,) mercury is given; or

blood gravitates into the uterine, rectal, or other veins, mercury is used to unload them, although the condition may arise from exhaustion; a patient is affected with *pneumonia*, it may be from injury, mercury is the remedy; from mechanical retardation of blood, mercury is given; from pressure on the pneumogastric and consequent changed nervous supply, again mercury is given, as if the changes were the same in each instance, whatever the disturbing cause."

It is very evident, then, that a work upon the injurious effects of mercury was much needed by the profession, and had the author confined himself to showing the needlessness of the remedy in many of the pathological conditions he has mentioned, and to pointing out the injury it is sure to inflict when administered in cases to which it is not adapted, we should have welcomed his work with unmingled pleasure. The errors above alluded to, however, are errors of individuals, not of the science; that patients are sometimes mercurialized after an injury, "to prevent so-called inflammation taking place," we do not doubt; but certainly they are not so treated by any well-informed physicians, nor in accordance with any of the received doctrines of pathology. But Dr. Habershon does not thus limit himself to a consideration of the evils arising from mercury ignorantly or carelessly given; he claims that it not only fails of exerting any beneficial effect, but is actually injurious in a class of diseases for which heretofore it has been considered one of our most powerful and most reliable remedies. There is no doctrine of medical science more constantly acted upon in practice, or which is better supported by authority, than that mercury exerts a great influence in promoting the resolution of inflammation, in checking inflammatory effusion, and in hastening the absorption of solid and liquid exudations. This doctrine the author not only doubts, but denies; he maintains that mercury has no power of controlling the inflammatory process, that it exerts no influence upon the absorption of exudations, and that the lowering effect upon the system, which it is well known to produce, tends to increase instead of to diminish effusion. Now the abandonment of the views held by the profession for those presented by the author, amounts to a revolution in practice,—there is no escaping this conclusion,—and we place the question in this light not because it throws any evidence into the scale, but to show that it behooves him who writes and those who read to understand fully the importance of the subject under discussion, to carefully examine the arguments advanced and the cases detailed, and only to make a decision after thorough investigation and calm reflection.

Those who have read the "Clinical Lectures" of Dr. Bennett, and those who are acquainted with the writings of the late Dr. Todd, will at once see that the author of the work before us is not alone in his views in regard to the injurious effect of mercury when administered in acute inflammations, and its want of power either to control this morbid process or to effect the removal of its products. He has placed himself by the side of men eminent for their learning, and occupying high positions in the profession, who not only doubt the power of mercury, but boldly challenge the truth of many points of theory, and the efficacy of many measures of treatment, which are sanctioned by authority, and daily acted upon by the mass of the profession. These men maintain that venesection, as a remedy for inflammation, is not only never beneficial, but always injurious; that disease presents no such distinctions as "sthenic" and "asthenic;" that there is no such thing as a "change of type" of disease; that the constitution of man does not undergo modifications at different periods of time; and that the whole course of treatment termed "antiphlogistic," and of which the administration of mercury is but a part, exerts a deleterious effect upon the patient, and tends more to his destruction than to the cure of the disease under which he suffers.

It will be seen, then, that we cannot enter here upon the discussion of the question as to the injurious or beneficial effects of mercury when administered for acute inflammation, the only point in the work upon which we should take issue with the author, and the only point to which we cannot give an assent. It is but a small part of a much wider and more important question, which covers the whole treatment of inflammation, and leads to an examination of the most important parts of general pathology. Intimately connected as it is with points which must first be examined and decided, we feel compelled to leave it for another occasion, and limit ourselves here to presenting to our readers some information in regard to the contents of the book under consideration.

The first chapter of this work considers "the general effects of mercury," and every one will admit that to ascertain fully and to state fairly the physiological action of a remedy, be it new or old, should precede an inquiry into its action upon disease. We do not find anything new in this chapter, while we think that far too much space is occupied with details of the poisonous effects of mercury when given to the extent of producing salivation. To dwell so much at length in this chapter, which should be a plain statement of physiological facts, upon the abuse of the remedy, and to depict so vividly the horrors of salivation, which is not a result of its judicious use, suggests to a candid mind the inquiries whether the author is not writing under the influence of prejudice, and whether the view he takes of the subject is not obscured by partiality and prejudice.

The second chapter is on "the mode of action of mercury," and opens with quotations from various writers showing the different theories of the manner in which the preparations of this metal produce their effects. We admit that widely different explanations are given, but this is of no consequence unless it is also shown that the same authors disagree as to the classes of disease in which mercurials can be beneficially exhibited; this they do not, being as unanimous in this respect as they are discordant as to whether the remedy is a special stimulant, entropic, tonic, sedative, or catalyptic. A "spanœmic" it certainly is; "alterative" is the favorite term with the profession, and although the author thinks it but a term for our ignorance, which is undoubtedly true, he does not give us any more definite explanation of its mode of action.

> "We must confess that we are not satisfied with any of the theories of mercurial action; and the facts known do not warrant us to state more than that after its introduction into the system in small medicinal doses, the circulating fluid is changed in character, nutritive processes modified or checked, and glandular organs excited to increased action."

This chapter contains a suggestion to use the terms "metatrophy" to denote the phenomena of changed nutrition in ordinary acute and chronic inflammation, and "paratrophy" for other forms of perverted nutrition. We should have no objection to the adoption of these terms did we think they were necessary, and could agree with the author, who believes that the *term* inflammation is the cause of a great amount of malpractice. That this word is a vestige of the days of ignorance we admit; that its original meaning influences practice now we do not believe.

The third chapter treats "of special diseases in which mercury is injurious," and we can but copy the list. Let the reader bear distinctly in mind, however, that the author alludes to the injurious effect of the constitutional influence of mercury, and would not abolish its use in these diseases if used as a cathartic, or in occasional small doses, not continued long enough to affect the general system.

> "1. In strumous diseases of the brain, lungs, abdomen, skin, bones, etc.
>
> "2. In degenerative changes of advanced life, as atheromatous deposit in the vessels, leading to apoplexy, ramollissement of the brain, etc., in fatty degenerations of the heart, aneurism.
>
> "3. In fevers and exanthems, as scarlet fever, typhus, measles, small-pox.
>
> "4. In conditions consequent on exhaustion, whether from over-fatigue, preternatural drain, mental anxiety, insufficient food, loss of blood.
>
> "5. In passive congestions of the lungs, uterus, etc., in states of weakness and loss of power.
>
> "6. In cancerous diseases.
>
> "7. In degeneration of the kidneys.
>
> "8. In diseases of the mucous membranes it is of very questionable utility, as bronchitis, enteritis, cæcal disease, dysentery, etc.

"9. In diseases called inflammatory, as of the membranes and substance of the brain, of the lungs and pleura, of the pericardium and peritoneum, in croup, etc.; while in some cases the products of disease become absorbed and health restored, in very many instances the malnutrition consequent on the mercury leads to increased effusions.

"10. In rheumatism and its complications the advantage is not equivalent to the injurious effect."

We assent to the first seven of these propositions without hesitation; although the first is directly opposed to the advice of so high authority as Dr. Graves, in his Clinical Lectures, we think the profession generally will agree with the author in believing that the constitutional effect of mercury is always injurious in strumous disease. We regret that the eighth proposition is not treated at greater length; inflammatory diseases of the alimentary canal constitute a large proportion of cases which come under the care of the physician in this country in the summer months, mercury is largely used in their treatment, and often, we have no doubt, with injurious effects. Had the author pointed out carefully the circumstances indicating their administration, or those forms of disease or conditions of system in which they would be likely to prove deleterious, he would have conferred a very great favor upon the profession. The rich stores of experience gathered by his countrymen in India, and other tropical climates, might furnish facts which he has been unable to gather at home.

The doctrines of the ninth and tenth propositions are the most important part of the book, as we have before shown; to these statements in regard to the injurious effect of mercury in inflammations we cannot assent; neither, as we have already said, can we enter at length into the consideration of them, because they are most intimately connected with other questions which must be previously investigated. All we can say here is, that they are in direct opposition to the recorded experience of the profession, and all authorities upon the action of medicines. We prefer, therefore, to render the good old Scotch verdict of "not proven," and await the result of further investigation, which time will surely bring us.

Each of the propositions quoted above is made the subject of some remarks in the work, and illustrative cases are reported. Some of these cases are excellent; we would especially mention the one of strumous peritonitis, which contains a striking illustration of the value of opium in this disease. The largest number of cases are of pneumonia, a disease which seems a favorite one with the teachers of the new doctrines in regard to the evil effects of venesection, mercury, and antiphlogistics generally. We believe there is a good reason for this; a reason which should never be lost sight of by the practitioner in perusing their writings. We allude to the widely-changed hygienic conditions under which the patients in these cases are placed, in the hospital where they are treated, compared with the situations in which they contracted the disease, and the circumstances by which they were surrounded. The poorly-clad, half-starved being is taken from the streets, or from some filthy, over-crowded lodging in a dark court or alley, and, after a warm bath, is placed in a clean bed, and breathes the warm air of a well-lighted and well-ventilated ward, is supplied with palatable food, and his wants are ministered to by experienced nurses. All this has a powerful effect upon him; these means alone tend strongly to restore him to health, and have an especial influence in promoting the subsidence of such a disease as pneumonia. The change is certainly sufficient to interfere seriously with any deductions which might be attempted as to the action of remedies; and we cannot consent to abandon old and tried modes of treatment for new ones, which are supported only by the result of cases observed in the wards of a metropolitan hospital.

The "conditions in which the administration of mercury is advantageous," forms the subject of the fourth and last chapter of the work, and we must copy the list to represent the author fairly, but have no space for comment:—

> "1. In retained excretions, as from the bowels, liver, etc., it is often of great value.
>
> "2. As a speedy and efficient purgative.
>
> "3. As an excitant to the excretory organs in some forms of dropsy, of embarrassed heart, of bronchitis, etc.
>
> "4. In small or occasional doses where its more free or continued use would be detrimental, in some of the classes to which we referred to its administration as being injurious.
>
> "5. In syphilitic diseases.
>
> "6. In some forms of gastrodynia and irritability of stomach, the symptoms are relieved by it.
>
> "7. In Asiatic cholera, although most severe cases have recovered after its administration, it is of doubtful efficacy.
>
> "8. Its local application in some cutaneous diseases, and chronic ulceration, is certainly salutary."

Since we cannot speak in terms of unqualified praise of Dr. Habershon's work, let us, in concluding our notice of it, state distinctly the extent to which we think he merits it, and the points upon which we think he has fallen short of doing all he might have done. We think he has failed to present, as fully as he ought, the injurious effects of mercury in cases where, from some peculiarity of the disease, or of the constitution of the patient, its action is different from the general rule. Syphilis, for instance, and especially as it occurs in strumous patients, furnishes such a subject, and one upon which a chapter of far more value than any in the work could be written; the remedy is abused in the treatment of syphilis as much probably as in any other disease, and it is not easy, if possible, to secure its beneficial effect in strumous subjects without injury to the constitution of the patient.

We think that in omitting to estimate the influence of great changes in the hygienic conditions of the cases he reports, he has not given that due attention to all the circumstances bearing upon the course of the disease which we have a right to expect in a clinical teacher. We think, too, that the work is not as complete as it should be, in view of the important change its doctrines would effect, if adopted, in the practice of medicine. We cannot look upon a work of this character as we should upon one designed only as a modest contribution to doctrines already held; it is antagonistic and revolutionary in its character, at issue with the received teachings of pathology, and we have a right to ask for a thoroughness and completeness which we should not demand under other circumstances.

On the other hand, so far as the author points out the folly of having recourse to mercurials in every case of disease, impresses the criminality of pursuing a routine practice with such powerful remedies, and presents proof of their injurious effects when needlessly given, he deserves our most hearty thanks, and we most cheerfully accord them. So far as this portion of the work is concerned, we wish it were in the hands of every young physician in the country; if its perusal but caused him to pause and give another moment's reflection as he extended his hand toward the mercurial preparations of his pocket-case, or took up his pen to write a prescription, it would be of great service to himself, and of incalculable benefit to his patients.

If any one is disposed to think, from the remarks we have made upon the work, that we hold Dr. Habershon censurable for the attempt he has made to show that mercurials exert an injurious influence upon the inflammatory process, let us hasten to remove the false impression. Far be it from us to maintain that the present state of medical science is so perfect as to be incapable of improvement, and its doctrines so well established as to demand no re-examination. On the contrary, we know that the rapid advances made in chemistry, minute anatomy, physiology, and pathology, make it imperative upon us to investigate from time to time the principles of our practice, and see that our means of curing disease keep pace with other branches of the science. We cannot assent to his propositions, because he has not presented proof enough to enforce conviction of their truth, and because his testimony conflicts with that of other observers equally competent. But neither will we deny them;

there is a state of mind termed by Göthe "*thätige skepsis*," which we recommend to every young man as he investigates the truth of Dr. Habershon's propositions, and we recommend to him not only an *active*, but an *intelligent skepticism*—a skepticism which understands all doctrines, examines all evidence, scrutinizes all facts, and is open to conviction when a sufficient amount of truth shall be presented. Let him observe carefully his cases and the effects of every remedy he administers; let him try to attribute to the right source every change which occurs in the patient for better or for worse, and be satisfied with nothing short of a complete understanding of every case he treats. If the author of this work, and those who hold similar views, fail in establishing the truth of the novel doctrines they have announced, the ground upon which we stand will be firmer under our feet; if, on the contrary, they succeed in proving them correct, we are convinced that to range ourselves by their side we must advance, for it is not in the nature of the human mind to retrograde. We commend, therefore, the subject-matter of the work to the consideration of the profession, hoping it will receive that attention and examination which its importance deserves.

ART. V.—*Transactions of the American Medical Association*, Vol. XII. Philadelphia, 1859, pp. 722.

THE volume before us has one merit which was not characteristic of its predecessors—it is neither bulky nor overloaded with lengthy reports. All that the committee have deemed proper to publish occupies about three hundred pages less than were comprised in vol. XI. Without inquiring at this moment whether commendable judgment and discretion have been exhibited in the selection of materials for the present work, we may at least give credit to the committee for their consideration in supplying to the profession a publication which is neither unwieldly nor unnecessarily weighty. The usual component parts of all transactions, such as the minutes of the annual meeting, reports of officers, address of president, etc., occupy nearly one-fourth of the contents of the volume, while far more than half the book is occupied by "Observations on Malarial Fever," by Prof. Joseph Jones, of Georgia. But limited space has therefore been appropriated to other valuable papers, while some of the materials presented to the notice of the Association, and doubtless worthy of a place in the transactions, may have been omitted. It is true that a large number of the committees merely "reported progress," and were unable to present any subjects for the consideration of the Association, and this may account for the smaller dimensions of the volume for 1859. In this view, the lengthy dissection of the subject of malarial fever may have been a godsend to the committee, in their fears that the volume might not otherwise possess sufficient ponderousness.

The Association met in Louisville, on the 3d of May, 1859; the representation of delegates was therefore mainly Western in its character. It must always happen that the district of country in which the convention assembles will be most largely represented in its meetings, on account of the facilities of access. If this result has some disadvantages, it has also one advantage, that each portion of the Union is able at some one time or other to put forth its voice in behalf of local interests which might be overlooked, were some central spot chosen for the perpetual holding of the meetings. A local as well as a national character must thus necessarily, therefore, attach always to the American Medical Association, from its very constitution and regulations. The president, Dr. Miller, of Kentucky, in alluding to the assembling of so many "representatives of the great American medical profession, an army forty thousand strong," congratulated them that, although as a body they might not be so learned, so critically and nicely framed in all the minutiæ of the profession as their European *confrères*, yet, for strength, integrity, and precision in all the great principles guiding to a successful combat with disease, the body was equal if not superior to that of any kingdom of continental Europe. We might briefly sum up the proceedings of the Association, by alluding merely to those prominent points which give a personal identity to the twelfth annual meeting as distinctive from those which had preceded it; but at this time it is our purpose to speak only of the literary results which have flowed from it.

The address of Dr. Lindsly, the former president, refers to the rapid progress of medical knowledge and to the improved modes of treatment, etc., which the nineteenth century has called forth to relieve the pain of the suffering and to add to the comfort of the unfortunate. The report of the Special Committee on Government Meteorological Reports gives a historical sketch of the interest which the government has taken in scientific inquiries into meteorological phenomena, and of the co-operation of the Smithsonian Institute with the Army Medical Department and Patent Office, and suggests modes by which more accurate and reliable observations may be collected for comparison. The report on Criminal Abortion calls attention to the prevalence of a wide-spread system of destruction of fœtal life, and cites, as the main causes of this general demoralization, the popular belief, even among mothers themselves, that the fœtus is not alive till after the period of quickening, the supposed carelessness of the profession as to fœtal life and the omission of precautionary measures preventive of abortion, as well as the grave defects of all legal enactments in regard to the fœtus in utero. The subject is an important one, calling for the interposition of medical men everywhere through the country, with a view to the general suppression of this criminal interference with fœtal life.

California receives special attention as to its medical topography and epidemics from Dr. Thomas M. Logan, of Sacramento, in a report to which is attached considerable interest, "not only on account of the remarkable configuration of the surface of that State, and the varieties of climate met with within its area, but also because of the rapid transition stages, transpiring before our eyes, between the rudeness of the first settlements and the more refined condition of countries long subjected to civilization." Michigan receives a similar attention from Dr. J. H. Beech, of that State, in a carefully written report. The "Report on a Uniform Plan for Registration Reports of Births, Marriages, and Deaths," embraces all the points which have been deemed essential to a proper aggregation of facts bearing upon the vital statistics of the country, and supplies a plan for uniformity of details which has been long needed.

The remainder of the book—*four hundred and twenty pages*—is almost wholly devoted to the paper of Prof. Jones, to which we have previously alluded. Without wishing to detract for an instant from the valuable evidences of industrious research which are thus supplied to the profession, we do not think the committee have acted wisely in publishing it, after the Association had removed it from their consideration, as is exhibited in the "explanatory note by the Committee of Publication," in which they acknowledge that any jurisdiction they originally had over the paper had been taken away from them, and been bestowed upon the Committee on Prize Essays. The latter failed to make any report, and therefore the Committee on Publication "were compelled either to publish it as originally intended by the Association, or withhold it altogether." We contend that the latter alternative was the only one open to them, for they had no just reason—as a committee—to assume that anything they did, after the subject was taken out of their hands, was "more nearly in compliance with the expressed wish of the Association." We have spoken only of the action of those having the paper of Dr. Jones in charge. The merits of his investigations and analytical examinations of the important questions connected with malarial fever speak for themselves, while the amount of steady mental labor which must have been employed in analyzing the views of different writers upon the same subject, in comparing the results of their observations, and in the detailed description of new theories, can be readily imagined from a glance at the pages of his contribution. The paper, which deserves a careful perusal, is too long, however, for an extended notice, and the few brief remarks we could make upon it would fail to do justice to any merits it may possess.

ART. VI.—*Lectures on Pathological Anatomy, delivered at Guy's Hospital during the Summer Sessions of* 1857 and 1858. By SAMUEL WILKS, M.D., F.R.C.P., Assistant Physician to Guy's Hospital, Lecturer on Pathology, and Curator of the Museum, etc., etc. 8vo., pp. 472. London, 1859.

THE work of Dr. Wilks, the latest production on pathological anatomy in the English language, has received a singular mixture of praise and condemnation at the hands of the critics. It has been warmly lauded for many obvious excellencies, and sternly rebuked for many obvious deficiencies and shortcomings. Where there is so much smoke, there must be some fire. We are free to confess that an attentive perusal of the work has impressed us with the conviction that this criticism is, in the main, well merited. As a treatise on morbid anatomy, at once full and satisfactory, it is "nowhere," having neither the advantages of a manual nor any of the broad features of a well-digested system. It is in every respect far inferior to the work of Jones and Seiveking and to the Elements of Gross, so well known in this country. We look in it in vain for those general principles the study of which is so necessary to a thorough comprehension of the subject in all rudimentary treatises. Dr. Wilks has entirely neglected everything of the kind, the very first chapter of the book opening with an account of the diseases and injuries of the bones. Such an arrangement may do very well for the advanced student, but is altogether unadapted to the wants of the young inquirer, whose progress is constantly impeded for the want of the requisite light in regard to the elementary facts of the science. Dr. Wilks has been called a "Guy's man," and it would really seem as if he had published his work exclusively for the benefit of the young men who resort to that celebrated institution, and not for the profession at large. However this may be, it is unquestionable that the frequent references to the morbid specimens and drawings in Guy's Hospital can be of no use whatever to any one; on the contrary, they only serve to encumber and disfigure the work. The lecture style of such a work is also objectionable, unless, as in the case of Watson's Practice of Medicine, it is eminently classical, animated, and entertaining, which the present production is certainly not.

Dr. Wilks runs over many of his subjects with a kind of railroad speed, hardly stopping long enough to take in anything but a piece of dry wood to keep up the steam. Whether this has arisen from a want of knowledge, an apprehension of being considered tedious or overlearned, or from a want of illustrative material in Guy's Hospital, we leave to the author himself to inform us. The fact is unmistakably as we state it.

Notwithstanding that we have found fault, and very great fault, with

Dr. Wilks's work, we can, nevertheless, heartily indorse its general character, the soundness of its doctrines, and the accuracy of his descriptions. While we cannot recommend it as a text-book, on account of the absence of rudimentary principles, so essential in a work of this kind, we are sure that no practitioner can rise from its perusal without benefit and instruction. One decided merit which the work possesses is its originality. Should another edition be called for, we hope that the author may enlarge it, and thus augment its general usefulness. British medicine certainly demands a more elaborate and comprehensive treatise on that subject; let Guy's be dropped, and a more cosmopolitan spirit be manifested.

ART. VII.—*Nature in Disease; illustrated by various Discourses and Essays. To which is added Miscellaneous Writings, chiefly on Medical Subjects.* By JACOB BIGELOW, M.D., Professor of Materia Medica in Harvard University, etc. etc. etc. Second edition. 12mo., pp. 410. New York, 1860.

THE fact that a new edition of this work, so soon after the appearance of the first, has been called for, shows the estimation in which it is held by the American profession. The volume has been issued in a very superior manner, and is altogether exceedingly attractive, not only on account of the intrinsic interest of the various topics of which it treats, but the chaste and classical style in which it has been composed. Dr. Bigelow writes like a scholar; and, although we do not feel inclined to indorse all his views, we can most cordially recommend the work as worthy of the most attentive perusal. The discourse on self-limited diseases, originally delivered before the Massachusetts Medical Society, at their annual meeting, in May, 1835, ought to be read and re-read by every member of the profession, as it will afford him a much better idea of the philosophy of treatment in this class of affections than he can find anywhere else within the same compass in the English, or, indeed, in any other language. Dr. Bigelow, in fact, was the first modern physician to call the attention of the profession prominently to the subject, and if he had never written anything else, this discourse alone would justly entitle him to the respect and gratitude of his brethren and of the public. The doctrine of the self-limitation of diseases had, it is true, been occasionally announced by others, among the rest by Asclepiades, the friend of Cicero; but it remained for our Boston confrère to place the subject in its just light, and to infix its importance upon the professional mind. He has shown the folly and wickedness of the use of harsh, violent, and perturbating remedies in the treatment of these maladies, and the indispensable necessity of a proper confidence, on the part of the practitioner, in the resources of nature. All honor, we say, to the man who had the sagacity fully to perceive these inestimable truths, and the courage to announce them to the world. We would rather be the author of such a doctrine than the hero of Waterloo.

Among other topics discussed in this volume are practical views on medical education; the medical profession and quackery; gout and its treatment; aphorisms on cholera; remarks and experiments on pneumothorax; the medicinal effects of coffee and tea; the history and use of tobacco; and the early history of medicine.

The Messrs. Wood have also brought out a new edition of the author's little work, entitled "A Brief Exposition of Rational Medicine," first published about two years ago, and noticed in a former volume of the REVIEW. Whatever may be thought of some of its doctrines, there can be no doubt at all that the book has already done an immense deal of good, by inducing practitioners to have less confidence in their own powers and more in the resources of nature, when properly aided by remedial measures. We heartily recommend an attentive perusal of its pages.

ART. VIII.—*Hæmorrhoids and Prolapsus of the Rectum; their Pathology and Treatment; with special reference to the Application of Nitric Acid.* By HENRY SMITH, F.R.C.S., etc., etc. Second edition. 18mo., pp. 108. London, 1860.

MR. SMITH, the author of this little volume, is evidently a young man, working for practice and position. The work, however, is really a very good one, perfectly scientific, well written, and replete with sound practical sense. Founded essentially upon essays originally published in the *London Times and Gazette*, it was at first intended merely to show the value of the local application of nitric acid in certain forms of piles and prolapse of the rectum, a mode of treatment which, Mr. Smith thinks, is still not sufficiently appreciated by the majority of surgeons. The present edition has been considerably enlarged by the addition of new text and new cases, and may therefore be regarded as a tolerably satisfactory monograph upon these two affections.

A cursory examination of the pathological portions of Mr. Smith's little book has not revealed to us any new light in regard to the etiology and morbid anatomy of hæmorrhoids and rectal prolapse, nor have we discovered any novelties in the treatment of these two diseases. The nitric acid treatment for piles, originally proclaimed by the late Mr. Houston, of Dublin, and so much lauded by several recent writers, is evidently a great favorite with the author, although it is but just to say that he does not award to it exclusive preference. On the contrary, he distinctly declares that it is applicable only to the milder varieties of the affection, leaving the more ancient and severe cases to be dealt with by the ligature. Excision he, of course, in common with all other respectable surgeons, pointedly condemns.

In using the nitric acid, none but the strongest and purest article should be trusted; it should be applied by means of a piece of soft wood, cut flat at the end, the bowel being previously forced down by straining or by an enema, and the surface carefully wiped. The touched part, as well as the adjacent border, is then thoroughly oiled, and the prolapsed bowel pressed up into its natural position. Several applications may be required before a final cure is effected. An anodyne is administered after the operation, to prevent peristaltic action, and the case is treated upon strictly antiphlogistic principles.

We hope that we shall have the pleasure to meet Mr. Smith soon again in other works upon less trite subjects, and of a more stately form. We do not think that the interests of science, or of humanity either, would have materially suffered if the present little book had never seen the light. We are sure that there are five hundred works before the profession from which the student could glean all that, if indeed not a good deal more than, is to be found in this volume.

ART. IX.—*The New Sydenham Society's Publications for* 1859.

IT is well known to most of our readers that this Society, founded upon the ruins of the old Sydenham Society, established in 1843, went into active operation about two years ago, and that it has already issued several excellent works, edited for the most part in a very able manner, and executed in the highest artistic style. The publications for 1859 are the following:—

1. Diday on Syphilis in Infants and Children at the Breast. Translated by Dr. Whitley. 8vo., pp. 272.
2. Gooch on the Most Important Diseases of Women and Children. With other papers, wood-cuts, and a prefatory essay by Dr. Ferguson. 8vo., pp. 235.
3. Memoirs on Diphtheria, by Bretonneau, Guersant, Trousseau, Bouchat, Empès, and Daviot. Translated by Dr. Semple. With a Bibliographical Appendix by Mr. Chatto. 8vo., pp. 407.
4. Schrœder Van Der Kolk on the Spinal Cord, the Medulla Oblongata, and on the Proximate Cause and Rational Treatment of Epilepsy. Translated by Dr. W. D. Moore, of Dublin. With numerous lithographs. 8vo., pp. 291.

The names of the authors of these works are all familiar to fame.

The treatise of Gooch is one of the most readable and instructive monographs on the diseases of women and children in the English language, besides possessing the great merit of being comprised within remarkably narrow limits. The work of Diday, for many years principal surgeon to the Venereal Hospital of Lyons, is the most meritorious disquisition on infantile syphilis that has ever appeared in any age or country. The memoirs on diphtheria are by some of the most experienced and learned physicians of France, with Dr. Bretonneau, of Tours, by whom this malady was first described, at their head. Schrœder Van Der Kolk's volume is one of extraordinary interest and beauty, and alone is worth the subscription price of five dollars, the entire sum for the series. The plates are exquisitely executed.

We trust that the New Sydenham Society, which has so auspiciously commenced its career, will meet with adequate encouragement to enable it to proceed in its praiseworthy efforts of furnishing the profession with the reprints of some of the older English authors and the translations of French and German works now little accessible to the profession. American physicians should lend their aid in fostering and sustaining an enterprise which, in its effects upon the progress of science and humanity, may be rendered quite as useful in this country as among our British brethren.

Original Communications.

ART. I.—*Notes of Selected Cases from the Wards of the Charity Hospital, at New Orleans.* By T. G. RICHARDSON, M.D., one of the Attending Surgeons, and Professor of Anatomy in the Medical Department of the University of Louisiana.

Dislocation of the Head of the Femur into the Thyroid Foramen, of eight days standing, reduced by Manipulation.

W. S , aged twenty-six, a very stout, athletic man, was admitted into the hospital on the first of November, 1859, having been injured eight days previously by falling from the side of a schooner into a skiff. Attention being directed to the left hip, only a very slight examination sufficed to determine the nature of the accident. The patient lying upon his back, the leg was found to be flexed to a right angle at the knee-joint, the thigh strongly abducted and everted, and the limb lengthened about an inch and a half; in fine, all the signs of dislocation of the head of the femur into the thyroid foramen were well marked.

Determined to attempt reduction by manipulation, I had the man carried into the amphitheatre before the class and brought fully under the influence of chloroform. Complete insensibility and muscular relaxation having been effected, I seized the limb just above the ankle, flexed the leg still further at the knee-joint and the thigh upon the pelvis, bearing the latter down upon the left side of the abdomen, then carried the knee over to the middle line of the abdomen, and rapidly extended the limb, drawing it at the same time obliquely underneath its opposite fellow. Just before the extension, which required the exertion of a good deal of force, was completed, the limb suddenly yielded and fell into its natural position, but a single manipulation having been employed. The usual after-treatment was instituted, and in ten days time the patient, being able to walk with little or no difficulty, left the hospital.

Notwithstanding the readiness and comparative ease by which reduction was accomplished in this case, I am not prepared to recommend manipulation as a substitute in all cases for the old method of extension by the means of pulleys. It is without doubt a great improvement in the surgical art, but when abused, as it oftentimes is, it is liable to do great mischief to the soft parts around the joint. We read of practitioners who, in their efforts to accomplish reduction in this manner, have thrown the head of the bone from one position to another; say from the dorsum of the ilium into the sciatic notch, from the latter into the thyroid hole, and then back again upon the ilium. When this happens, great laceration and bruising of the soft parts must, of course, be produced, and hence the necessity for an accurate knowledge of the mechanism of the procedure and unusual care in its application. In reduction by the pulleys, the force being applied only in the direction of the displacement, no such accident can be produced. When the knowledge referred to is not possessed by the operator, I would advise adherence to the old method.

Concussion, with Laceration of the Brain and slight Extravasation of Blood; Death; Autopsy.

An Irishman, name unknown, aged about thirty, was brought into the hospital on the afternoon of October 11, 1859, in a state of complete insensibility from an injury to the head received an hour previously. The history of the case, as gathered from those who witnessed the accident, was substantially as follows: The man was standing on the levee near the river's edge when a spar, extending from an adjacent boat to the shore, suddenly gave way, flew up, and struck him under the jaw with such force as to raise him entirely from the ground and throw him several feet distant. He was picked up in an apparently lifeless condition and conveyed immediately to the hospital, where I saw him the following morning.

Upon making inquiries of the student of the ward, I ascertained that the man was completely insensible when admitted, and that his vital powers were so much prostrated that the house surgeon deemed it advisable to administer brandy and water, which was gotten down only with great difficulty. Partial reaction followed the use of the stimulant, but up to the time of my visit, about twenty hours after the accident, there was no evidence of returning consciousness. Upon examination, I discovered the mark of the blow just below the lower jaw on the left side, but the skin was not lacerated nor the bone broken. His intellectual functions were completely suspended, nor could he be in the least aroused, or even made to open his eyes, by forcible shaking or by hollowing in his ears. His breathing was natural, pulse a little accelerated, and extremities warm. He had not vomited since his admission, but passed his urine involuntarily. The pupil of the left eye was slightly dilated, but the right was of its natural size, and responded readily to the influence of light.

While making this examination, I noticed that he was continually moving the left leg and arm, but that only now and then did he lift the right leg from the bed or move the fingers of the right hand; and upon directing my attention more particularly to these symptoms, I found that a partial paralysis of sensibility existed throughout the whole of the right half of the body, and that the muscles of the right arm, with the exception of those going to the fingers, were in a state of *rigid contraction;* so much so indeed that the limb could be bent at the elbow only by using considerable force. The sensibility of the arm was manifestly not entirely destroyed, for pinching the skin excited an effort to move the limb, as evinced by the contraction of the muscles of the corresponding shoulder. The right leg was relaxed, but when pinched or pricked was now and then feebly raised from the bed.

No fracture of the skull could be detected. Reaction having been in a measure established, as indicated by the character of the pulse, temperature of the surface, and other signs, I did not consider it necessary to repeat the stimulant which had been given the previous evening, but simply ordered cloths wrung out of cold water to be applied to the head, and the bed to be surrounded by curtains to shut out light and noise.

On the following morning I found the temperature of the skin, both of the extremities and trunk, quite hot but moist; pulse 120, soft and compressible; respiration somewhat hurried but easy; the bladder still emptying itself involuntarily without any discernible accumulation. I also learned that a large semi-liquid evacuation from the bowels had occurred during the night. There was, however, no reaction in the mental faculties, and the partial loss of sensibility in the right side, and the rigidity of the muscles of the right arm, continued.

The directions of the day before were repeated, with the addition of a large blister to the inner side of each thigh. The patient died, however, during the ensuing evening, fifty-three hours after the accident.

Autopsy.—The body was opened fourteen hours after death, the examination being limited to the head, as it was evident from the history of the case that this was the only part injured.

Upon lifting the brain, surrounded by the greater part of the dura mater, from its place, attention was first directed to the bones of the cranium, but no sign of fracture or other injury could be found, nor was there any effusion of blood between the dura mater and the bony surfaces. Removing the dura mater from the brain, the first abnormal appearance that I observed was a slight congestion of the veins of the pia mater, but no extravasation. Proceeding next to slice the brain carefully, commencing above, I could detect no unusual fullness of the vessels of the organ; but situated near the centre of the anterior lobe of the left hemisphere was a very small longitudinal rent containing a tolerably firm clot of blood about the size and very nearly the shape of a large pea. The clot was easily lifted from its bed, and, what was singular, the surrounding parts were scarcely stained by the effusion and not in the least congested. Continuing the dissection, I came upon a similar clot, but not larger than a No. 4 shot, in the posterior lobe of the right hemisphere, just beneath the gray layer.

Remarks.—The value of this case, both in a diagnostic and pathological point of view, will be readily appreciated. With the exception of the partial paralysis of the right side of the body, the symptoms were those of a pure but severe case of concussion. The exception in question was, however, sufficient to induce a strong suspicion of grave and probably fatal lesion to the central substance, and I so expressed myself from the time that I first saw the patient. As to the complete and protracted suspension of the intellectual powers, this is not unfrequently witnessed in cases of simple concussion, and, except when it continues for some time after entire reaction of the circulatory and secreting functions is not a very alarming symptom.

The post-mortem appearances account sufficiently, according to our present notions of the relations of the cerebral hemispheres to the two sides of the body, for the partial paralysis of the right arm and leg; but how is the rigidity of the right arm to be explained? This was a puzzling symptom to me, and is worthy the attention of physiologists.

Concussion; Suspension of Intellectual Faculties for Four Days; Recovery.

J. W., aged fourteen, was admitted into the hospital, October 8th, 1859, having been injured a few hours previously by being thrown upon the sod from the back of a mule. It could not be ascertained what portion of the body struck the ground first. The symptoms were those of an uncomplicated but severe case of concussion; heart's action feeble, and pulse correspondingly weak but slow, beating only 60 per minute; countenance pale, and features pinched; respiration natural; pupils unaltered and contracting promptly under the influence of light; vomiting and involuntary passage of urine. The intellectual faculties, as is usual in such cases, were not completely suspended; for when the body was forcibly shaken, a muttering complaint could be elicited, but no intelligent answer to the simplest question could be obtained, however loudly spoken in his ears.

Dr. Dismeger, who attended the case for two days before it fell into my hands, employed none of the ordinary means to bring about reaction, except the administration of a little brandy and water, which, being vomited, was followed by only partial success. At the time of my first visit, forty-eight hours after the accident, all the symptoms above mentioned were present except the paleness of the countenance, contraction of the features, and coldness of the extremities. As the functions of the body generally seemed to be in a tolerably good condition, and the symptoms not alarming, I did not consider it prudent to repeat the stimulants, but ordered the head to be placed low, perfect quiet, and the regular administration of milk and beef-tea every three or four hours.

On the following day the color of the face was decidedly better; extremities warm; pulse somewhat increased in force, but no improvement in the cerebral symptoms. Ordered blisters to the thighs, and continuance of regimen.

On the morning of the twelfth, four days from the receipt of the injury, the patient opened his eyes as though awaking from an ordinary sleep, looked around evidently in perfect ignorance of his situation, and being told where he was, tried to get out of bed in order to go home. Upon being questioned, he could give no account whatever of the accident, but remembered only having been upon the mule's back. By gentle confinement to bed, low regimen, and slight purgation added to the counter-irritation which had already been made by the blisters, inflammation of the brain was prevented, and in four days more the boy was allowed to be taken home, with directions to continue the treatment for a few days longer.

Remarks. The object in reporting the above case is to show the good effects of a more negative course of treatment than is usually pursued in such cases. It is true that the patient had taken brandy, but this had been ejected very soon after, and he subsequently took nothing whatever except milk and beef-tea. The great advantage which such a plan possesses is the security which it affords against inflammation of the brain. It is only where the prostration is excessive that a resort to stimulants is, in my opinion, at all justifiable, and I am convinced that if the majority of cases were let alone, we should have fewer deaths from subsequent inflammation.

Compound Fracture of the Skull, with Depression of Bone and no Symptoms of Compression; Remarks upon the General Treatment of such Cases.

During the month of February, 1860, three cases of compound fracture of the cranium, with depression of bone and no symptoms of depression, were admitted into my wards at the Charity Hospital. Of these, one was what Mr. Erichsen terms a "longitudinal punctured fracture," made with the edge of a hatchet; the second, an extensive compound comminuted fracture, with laceration of the brain, produced by a blow from a hammer; and the third, a compound fracture, with angular depression of bone, inflicted by a stone or brick. In the first case, the wound was closed by the house surgeon, by means of stitches, and the parts kept constantly cool and moist by the application of cloths wrung out of water. The patient recovered without a bad symptom. In the second case, inflammation of the brain, induced by the injury which the organ received at the time of the accident, supervened upon the third day, and death resulted at the end of a week. The third case is here reported in full for the purpose of illustrating the treatment which I usually pursue under such circumstances, in opposition to that of a large majority of American and British surgeons.

J. C., a large, well-built, hearty-looking Irishman, about thirty years of age, was struck upon the forehead by a stone or brick, he did not know which, on the night of the first of February. He fell to the ground in a state of insensibility, but soon recovering his consciousness, got up, and was led by his friends to the hospital, where he was put to bed, and cloths wrung out of cold water applied by the student of the ward. Examining the next morning, I found a contused, lacerated wound of the forehead, situated a little to the left of the median line, and an inch and a half above the orbital arch. The wound was sufficiently large to admit the end of the forefinger, upon introducing which, and also by exposing the parts to the light, I readily ascertained that there existed a fracture of the skull, with angular depression. Two irregular pieces of bone, each about as large as a ten-cent piece, had been driven in obliquely upon the brain, and were so firmly impacted as to be immovable by any ordinary force made with the finger or forceps. The depth of the depression at its lowest point below the level of the surrounding bone was nearly eight lines. There were also a few small splinters or chips of bone lying loose in the wound.

As already intimated, the man had no symptoms of compression, and, at the time of my visit, expressed himself as entirely comfortable, save a very slight headache. Under these circumstances, and as it was impossible to remove or even raise the depressed fragments without recourse to the trephine, I contented myself with simply picking out the loose bits, and directed the cold cloths to be continued, a rigid antiphlogistic diet, perfect quietude, and the administration of a dose of compound cathartic pills. Under this treatment, which, with the exception of the purgation, was continued from day to day, the wound gradually filled up from the bottom with healthy granulations, and in less than three weeks was entirely healed, the patient not having had a single untoward symptom. It is now four months since the accident, and although I have not seen the man since he left the hospital, as he has not sent for me nor applied again for admission, I have good reason to believe that he remains perfectly well.

Remarks.—My object in reporting this case, and in mentioning the other two in connection with it, is to show, in the first place, that compound depressed fractures of the skull without symptoms of compression are not very rare, Mr. Erichsen to the contrary notwithstanding; and, secondly, to furnish evidence in favor of modifying a generally received surgical dogma concerning their treatment. In regard to the latter question, if the reader will take the trouble to refer to the standard surgical works published in this country and in Great Britain, within the past half century, he will find that the trephine or the elevator is directed to be employed in all cases of compound fracture with depression, whether symptoms of compression exist or not. Take, for example, the recently published "System of Surgery," by Professor Gross, pronounced by Professor Simpson, of Edinburgh, to be the most complete treatise on surgery in the English language. The following is his language: "The proper treatment in compound fracture is to elevate the depressed bone and remove any loose or partially detached pieces, this plan being adopted whether there be any compression or not. The case being a compound one cannot be aggravated by operation, though it is not to be forgotten that this should be executed with the greatest care and gentleness." Mr. Erichsen is equally positive; and if we go back a few years to the great modern lights, such as Sir Astley Cooper and Mr. Abernethy, we find this same doctrine laid down as a law not to be questioned. Accustomed as the Anglo-Saxon race has been for so many centuries to obedience to law, departing from it only by slow degrees, as circumstances seem gradually to require, or breaking suddenly away from it only under the pressure of great emergencies, it is not strange that a doctrine backed up by such authority, and reaffirmed by nearly all subsequent teachers, should have all the force of an enactment of the Medes and Persians, which, we are told, altereth not. Now, with all due deference to the opinions and decrees of those who have established or perpetuated this rule, and without partaking in any manner whatever of the spirit or temper of the party who pleasantly style themselves "Young Physic," I am disposed to object to the wide range which has been given to this dogmatic precept. I have no objection to picking out pieces of bone which are completely detached from their connections with the dura mater and pericranium, or so nearly so that their little vitality must be inevitably lost in the subsequent reaction; nor would I hesitate to remove a jagged or splintered fragment that might be sticking through the dura mater into the brain; but I cannot understand the necessity of removing the bone simply because it is found resting upon the dura mater. To elevate it to its place, when this can be accomplished without further injury to the cranium, would be all right enough, but it is rarely feasible, the great majority of cases demanding for this purpose the use of the trephine.

If I understand the matter, the practice is grounded upon the fact that the depressed bone is necessarily a cause of irritation which will subsequently develop inflammation of the brain or its membranes, whether these structures be wounded or not. Upon this subject I have two suggestions to make.

In the first place, those who take this ground also advocate non-intervention in simple depressed fracture without symptoms of compression. Now if the depressed bone be a cause of inflammation of the encephalon in compound fracture, it is not less so in simple fracture. Indeed, this unfortunate result, according to these premises, would be more likely to occur in the latter than in the former, in consequence of the additional pressure exerted by the extravasated blood and the products of the subsequent inflammation of the subcutaneous structures. And this, I think, will be found to hold good in practice; that is to say, that inflammation of the brain and its membranes oftener occurs in simple fracture with depression than in compound, the same expectant treatment being employed in both.

Secondly, it is not true that pressure upon the brain induces inflammation of the organ, and in proof of this I need only refer to the fact that apoplectic effusions are seldom if ever followed by such an occurrence. The cause of inflammation of the brain after fracture I conceive to be the bruising, laceration, or jarring to which the organ has been subjected; and if such be the fact, the removal of the depressed bone will in no degree serve to prevent this much-dreaded result, except in those cases in which the fragments have penetrated the dura mater. I might even go still further and state, as has been suggested to me by my distinguished colleague, Professor Stone, that it is not altogether improbable that the removal or elevation of the depressed bone, independently of the injury done by the trephine, may even contribute to the establishment of inflammation by permitting the entrance of a greater amount of blood into the bruised part when reaction takes place than could occur if the pressure were allowed to continue.

In regard to the statement made by many writers, that the use of the trephine does not in any manner complicate a case of compound depressed fracture, I would simply ask whether that exposure of the dura mater which is what they so much fear in simple fracture as to advise against the use of the trephine, is not largely increased by the application of the instrument in compound fracture, to say nothing of the further injury to the bone? It is true that in times long gone by, and it is to be hoped never to return, when a perfect mania for trepanning prevailed among surgeons, large portions of the cranium are said to have been removed with evident advantage to the patient;* but this by no means proves the innocuousness of the operation.

Lastly, I would state, without fear of contradiction, that the number of persons who recover after compound fracture with depression, in whom the trephine is not employed, is far greater than of those who have been subjected to the operation. Common observation proves this beyond any doubt; but as additional evidence, I would refer the reader to the statistics of Mr. Lawrie and Mr. King, in Cormack's *Monthly Journal*, 1844, where it will be found that of 77 cases reported of compound fracture, there were 29 cures and 48 deaths; 26 of these 77 cases were not trephined, and of these 18 were cured and 8 died; 51 of the 77 cases were trephined, and of these 11 were cure and 40 died.†

The only question that remains to be considered in this connection is the liability to epilepsy after depressed fracture when the fragment of bone is allowed to remain in its unnatural position. The number of cases of epilepsy directly ascribable to this cause, compared with the total number of cases in which depressed bone is permitted to remain below the level of the surrounding surface, is acknowledged by all to be very small, and does not therefore usually enter into the discussion of the subject. But according to the views here enunciated concerning the propriety of using the trephine in the class of cases under consideration, the question becomes, in my opinion, of considerable importance. In the absence, however, of sufficient data, I am compelled to leave it for further investigation.

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* It is mentioned, in John Bell's "Principles of Surgery," that Godifredus, chief surgeon to the States of Holland, was accustomed to boast that his friend Henry Chadborn, chirurgeon, during King William's wars on Philip, Count of Nassau, trepanned the skull of the count *twenty-seven* times, and substantiated the fact by the most indisputable authority, for he made the said Count of Nassau, after he was recovered, on the 12th day of August, 1664, write the following curious certificate: "I, the underwritten Philip, Count of Nassau, hereby declare and testify that Mr. Henry Chadborn did trepan me in the skull twenty-seven times, and after that did cure me well and soundly."

† Mott's Velpeau, vol. ii. p. 942.

Subnitrate of Bismuth, in the Treatment of Burns and Scalds.

To the thousand and one local remedies resorted to by medical men, as well as non-medical persons of both sexes, in the treatment of burns and scalds, I have the temerity to add another, if, indeed, I have not been anticipated by some one else. The substance referred to is the subnitrate of bismuth, which I employed during the past winter with remarkable success in the wards of the Charity Hospital. Heretofore, I was in the habit of using the white-lead and linseed oil, as recommended first by Professor Gross, in the March number of Dr. John Bell's *Medical Bulletin* for 1844, and, although I consider it far superior to any other application in common use, I am now convinced by ample experience that the bismuth is better. I was induced to give it a trial from a consideration of its well-known effect in calming irritation, and even actual inflammation occurring in mucous membranes, the condition of these structures under such circumstances bearing a very close analogy to that of the skin after a burn of the first or second degree.

When I first began its use, I combined it with linseed oil in such proportions as to form a consistent paint, but subsequently substituted glycerin for the oil, and I am now inclined to think that the combination can never be surpassed, since by it every local indication is fully met. To prepare it, it is only necessary to rub the bismuth in a mortar with a sufficient amount of glycerin to form a paste or thick paint, which should be applied to the affected surface by means of a camel's-hair pencil or a mop made of soft linen. Previously, however, to making the application, the parts should, if possible, be thoroughly dried, and for this purpose it is necessary to prick with a needle or other fine instrument any blisters that may exist, and carefully wipe the surface, by gently pressing upon it a piece of dry lint or charpie. A thick coating having then been put on, the parts should be protected from the pressure or friction of the bedclothes by covering it with a sheet of clean carded cotton or a layer of cotton batting, which may be confined, if necessary, by a thin bandage lightly applied. In burns of the first degree, one such application will often suffice, but in those of the second degree, it may be necessary to repeat it, in part at least, from day to day, in consequence of its disturbance and the wetting of the cotton by the subjacent discharges. The great object is to keep the denuded and tender surface entirely protected from atmospheric contact, which is especially important in the wards of hospitals where the air is always more or less loaded with noxious gases.

In slight burns of the first degree in which there is only an erythematous inflammation without any vesication, the glycerin may be conveniently dispensed with and the dry bismuth dusted thick over the surface, in which case the watery exudations from the skin will form with it a pasty coating sufficiently protective. But still the glycerin, possessing of itself properties powerfully soothing in their influence, should always be combined with it, unless there be some reasonable objection to its use.

The carded cotton or cotton battery I look upon as a most valuable adjuvant, and is superior to anything with which I am acquainted for warding off pressure.*

ART. II.—*Statistics of Insanity in the United States.* By RICHARD J. DUNGLISON, M.D., Physician to the Burd Orphan Asylum and to the Albion Society.

STATISTICS of physical or mental infirmities interest the curious inquirer more often than they reward the zeal of the compiler. The reason is obvious; a few new facts of little consequence, or a few old ones with which he has been unfamiliar, become magnified as objects of importance in the eyes of the one, while the patience of the other receives but slight satisfaction in the paucity of useful materials separated from the confused mass of details. Matters of slight moment are dwelt upon, considered and reconsidered, while what is truly important is thrown aside, rejected as worthless, or left to the exploration of more careful observers. The latter must always, of course, in numerical strength, be the fewer, but the grand results so often obtained by patient investigation preserve the memories of their authors, when those who have devoted themselves to unimportant abstractions have been forgotten, and their results have passed away with them.

Perhaps statistics of infirmities of the organs of thesenses furnish as striking an exemplification of this fact as any other sources of statistical information. The institutions devoted to the care and comfort of the blind, deaf-mute, and insane portions of the population, do not appear equally to appreciate the value of general information upon points on which professional and unprofessional are eager to acquire knowledge. How often are we told, as if they were almost the only points which could possess any interest to us, that the institution has expended so much in the course of the year for groceries and provisions, and has laid out its grounds in such a scientific and ornamental style of gardening as to excite the admiration of all beholders! To become truly useful sources of practical information, we need, rather than an advertisement of this kind, an enumeration of all the facts bearing upon the causes of predisposition to certain morbid affections of the senses, a personal history of the patient's condition, sex, and age, an account of the greater prevalence of mental disease in one district of country than another, the influence of marriage, sex, and constitution, on recovery or the reverse, and the numerous other channels through which lessons may be learned to guard us from the incursion of disease, or to assist us in relieving the infirmities to which we are subject.

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* Since writing the above, Dr. W. C. Nichols, the highly accomplished House Surgeon of the Charity Hospital, has informed me that he has given the bismuth and glycerin a fair trial in a number of cases of burns under his charge, and freely accords to it all the praise which my experience has elicited in its behalf.

If we could only bring home to our minds the consciousness of the fact that we are all exposed to most of the causes, of one kind or another, which predispose or excite to blindness, deaf-dumbness, or insanity, the world at large would be much less indifferent than it now is to considerations which seem at present to possess direct interest to comparatively a small proportion. It is not easy to impress this conviction upon the mind, and perhaps it may be as well that people generally should remain indifferent to it; the gloomy contemplation would assuredly not add much of happiness to the cares of every-day life. The truth is only mentioned to show how much wider the field of accurate statistical information might become, if more general interest were excited in such subjects of universal consequence.

We are, of course, dependent upon the accuracy and careful scrutiny of others for the mass of statistics through which we must search for the elimination of but few important details. If such authorities were unanimous in their mode of arrangement, and in their knowledge of what should be accepted as useful and what might be unhesitatingly rejected as worthless, if some uniform understanding of the wants of the professional and unprofessional could be arrived at, how greatly might the whole matter of statistics be simplified! It is by no means a grateful task, while aiming at unexceptionable accuracy, to discover how much disorder has been thrown into statistical records by the total carelessness, or only near approximation to accuracy, of those who should be the most worthy sources of information. If some system of classification were adopted which would furnish facilities for the collection of facts, and be uniformly applicable to every institution in which the blind, or the deaf-mute, or the insane are cared for, the slight additional trouble of registration would be amply compensated for by the grateful appreciation of those interested in human infirmities.

Insanity, in all its phases of mental and moral perversion, is fully described in works devoted to special and general pathology. The purpose of this article is to avoid all such points as refer to symptomatology, diagnosis, or treatment, and to adhere, as far as practicable, to facts which may be confirmed or established by the numerical records and the enlarged experience of those who have devoted special attention to the subject. A complete statistical history of insanity from European and American sources is almost impracticable. Continental authorities are often inaccessible, and from a few scattering details in countries whose language is unintelligible to the rest, we can make no inferences which are worth recording. Our own country is rich in the registered history of mental ailments, and from these channels it is proposed to make such deductions and collect such materials as may furnish a condensed history of insanity in the United States. As the reports of institutions for the insane are the most prolific records it is in our power to consult, we shall collect from them statistical information upon prominent points of interest connected with the insane, having previously considered such facts, meagre as they are, as have been furnished in the details of the United States Census of 1850. We may therefore appropriately touch first upon the statistics of the insane among the general population, and afterwards upon institutions devoted to their care. We shall refer merely to those cases of mental alienation which occur from perversion of intellectual and moral qualities, and exclude entirely all reference to congenital cases of defective mental development, embraced under the head of Idiocy.

I. STATISTICS OF THE INSANE AMONG THE GENERAL POPULATION.

Information on the number, etc. of the insane in this country can only be obtained through the details of an imperfect census. How little or how much reliance can be placed upon it, we cannot now argue; but adopting as our standard the results which it has furnished, we are able to make certain estimates of the influence of race, of the proportionate numbers of this class of unfortunates in different states, and other points of interest which may have some value to statisticians, however accurate or inaccurate the figures may be. In referring to census details we become involuntarily disbelievers in the idea that figures are infallible, and we condemn the laxity with which facts are collected, although we employ them almost as freely as if they were the most accurate results that census-takers could accomplish. The few facts obtained from the census of 1850 are embraced in the following tables.

1. *Comparison of the Insane, Blind, Deaf and Dumb, etc.*—The following table, in an aggregate of 50,994 cases of infirmities of sense or the senses, exhibits the proportion of insane to the other classes in the general population:—

Insane	15,610, or 1 to 1485	of general	population.
Idiots . . .	15,787, or 1 to 1469	"	"
Deaf-mutes . . .	9,803, or 1 to 2365	"	"
Blind . . .	9,794, or 1 to 2367	"	"

The blind approximate closely the number of the deaf and dumb, while the insane and idiotic classes are not widely apart from each other. The insane are more than 60 per cent. more numerous, if we can place reliance on these estimates, than either the blind or deaf-mutes.

In every 100,000 *of the Population* (*Census* 1850) *there are:*—

Insane	67.	Blind	42.
Idiots	68.	Deaf-mutes	42.

2. In a previous article upon deaf-muteism,* we referred to the greater prevalence of that infirmity among the native than among the foreign population. If we adopt a similar mode of classification with the insane, excluding slaves only, we shall find insanity far more prevalent among the foreign-born than among the native population.

PROPORTION OF INSANE IN THE NATIVE AND FOREIGN POPULATION.

STATES.	Native Insane.	Native Population.	Proportion to Pop.	Foreign Insane.	Foreign Population.	Proportion to Pop.
New England........	3,375	2,423,223	1 : 718	412	299,340	1 : 726
New York, New Jersey, and Pennsylvania............	3,667	4,884,356	1 : 1332	1,029	1,005,036	1 : 976
N. W. States and Territories.........	1,963	4,656,158	1 : 2372	340	638,784	1 : 1878
Slave States, etc....	3,860	5,534,813	1 : 1434	268	232,839	1 : 870
	12,865	17,498,550	1 : 1360	2,049	2;175,999	1 : 1061

Change of mode of living, intemperance and dissipation, the frustration of fondly-indulged hopes of success, reverses of fortune, etc., are very often followed by insanity, and these, we imagine, operate powerfully among the foreign-born population. In the words of one of the New England Institutions: "Driven from their early homes by poverty, ignorance, and delusive hopes, they are thrown on our shores, and left to contend as they may with the new circumstances around them, until disappointment or sickness, or intemperance, or other form of vice, extinguishes the feeble light of reason, and consigns them to a lunatic hospital. They are unpromising patients. They do not recover in so large a proportion as others, and consequently contribute largely to swell the number of incurable cases which crowd the wards of our hospitals."†

We do not offer any explanation why mental alienation should attack the foreign-born in so large a proportion in some States, nor why they should be attacked in a proportion in the New England States no greater than exists among the native born. Reasons doubtless exist, which must be apparent to those familiar with the intimate domestic arrangements, habits, and feelings of each class.

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* "Observations on the Deaf and Dumb," reprinted from the N. A. Medico-Chirurgical Review, Philadelphia, 1858.

† Third Annual Report of the State Lunatic Hospital at Northampton, Mass., 1858, p. 31.

3. *Influence of Race.*—It will be seen, by the following table, that insanity is far more prevalent among the white and free colored population of the United States than among the slaves. It would be natural to suppose that absence of care and freedom from anxiety as to the future would tranquilize the mind, and ward off disturbing elements. The condition of a happy slave, thinking only of the present, and not dreaming of want in the future, would appear to be that which should give rise very infrequently to causes of insanity. Intemperance, so fruitful a source of misery and unhappiness to the white and free colored, is comparatively unknown among the slave population, every slaveholder striving to prohibit the use of alcoholic liquors, and dreading the proximity of taverns or drinking-places, which can supply unlimited indulgence to his slave. Hence, intemperance itself does not exist as a cause of mental alienation, nor can the thousand evils it always brings in its train—disease, exposure, excesses, etc.—be worthy of consideration as causes of insanity. Anxiety would be a far more productive source of mental disease to the free colored population, from the fact that they have to contend at a disadvantage with the whites in many of their occupations and modes of earning a livelihood. It would be interesting to pursue these inquiries further than they have already been carried, to determine what causes are mainly at work to produce insanity among the colored race, and why in some portions of the country—New England and Delaware for example—the proportion should be so large. It may be remarked, however, that in a small population, in Maine, for instance, the number of insane must be so small that no very reliable deductions can be founded upon such meagre statistics. Yet New England, which contains but about one-thirtieth of the free colored population of the Union, had within her limits nearly an eighth of the free colored insane. Ohio, with a larger free colored population than that of all the New England States, had, in 1850, but one-third as many insane; while Maryland and Virginia had but two and a half times as large an insane free colored population as New England, although having more than five times the number of free colored in the general population.

In inserting the following table, which has been carefully prepared from the census of 1850, we desire to correct an erroneous conclusion which has crept into a valuable statistical work—*Boudin's Traité de Géographie et de Statistique Médicales, etc.*, Paris, 1857 (vol. ii. p. 143)—in consequence of figures adduced by Dr. Nott, of Mobile, to show that the farther removed the negro may be from the tropics, the more liable will he become to mental alienation.* M. Boudin asks: "Of what consequence is it, if the negro is able to succeed in living and even of perpetuating his race in a temperate zone, if it should be shown, as has been attempted, that he becomes insane there in an enormous proportion?" A reference to the table disproves this assertion, and answers M. Boudin's questions satisfactorily. The farther north we go, the less numerous do the slaves become, until at last we find all the colored race free. It is then that causes of insanity become multiplied to them, while climate, which is not a powerful cause of perversion of the mental and moral faculties, would operate more actively as a predisposing cause of idiocy.

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* J. Nott, M.D. Two Lectures on the Natural History of the Caucasian and Negro Races. Mobile, 1844.

Influence of Race in the production of Insanity.

(CENSUS OF 1850.)

	STATES.	White Insane.	Proportion to White Population.	Free Col. Insane.	Proportion to Free Col. Population.	Slave Insane.	Proportion to Slave Population.
6 New England States.	Maine	556	1 : 1046	5	1 : 271		
	New Hampshire .	378	1 : 839				
	Vermont . . .	560	1 : 560				
	Massachusetts .	1661	1 : 593	19	1 : 477		
	Rhode Island . .	210	1 : 685	7	1 : 524		
	Connecticut . .	464	1 : 782	6	1 : 1282		
3 Middle States.	New York . . .	2487	1 : 1225	34	1 : 1443		
	New Jersey. . .	370	1 : 1258	9	1 : 2634		
	Pennsylvania . .	1865	1 : 1210	49	1 : 1094		
15 Slave States and Dis. of Columb.	Delaware . . .	48	1 : 1482	20	1 : 903		
	Maryland . . .	477	1 : 876	44	1 : 1698	25	1 : 3,614
	Virginia . . .	864	1 : 1035	47	1 : 1156	59	1 : 8,008
	North Carolina .	467	1 : 1184	10	1 : 2746	33	1 : 8,743
	South Carolina .	224	1 : 1225	4	1 : 2240	21	1 : 18,330
	Georgia	294	1 : 1774	2	1 : 1465	28	1 : 13,631
	Alabama . . .	201	1 : 2122	2	1 : 1132	30	1 : 11,428
	Florida	9	1 : 5245			2	1 : 19,655
	Mississippi. . .	105	1 : 2816			24	1 : 12,911
	Louisiana . . .	144	1 : 1774	11	1 : 1587	45	1 : 5,440
	Texas	37	1 : 4163				
	Arkansas . . .	60	1 : 2703			3	1 : 15,700
	Missouri . . .	249	1 : 2377	2	1 : 1309	11	1 : 7,947
	Kentucky . . .	502	1 : 1516	2	1 : 5005	23	1 : 9,173
	Tennessee . . .	380	1 : 1991	5	1 : 1284	22	1 : 10.884
	Dist. of Columbia.	13	1 : 2918	9	1 : 1117	1	1 : 3,687
7 West'n States and 4 Territories.	Ohio	1303	1 : 1500	14	1 : 1805		
	Indiana	556	1 : 1757	7	1 : 16[illegible]9		
	Illinois	236	1 : 3584	2	1 : 2718		
	Michigan . . .	132	1 : 2992	1	1 : 2583		
	Iowa	42	1 : 4568				
	Wisconsin . . .	54	1 : 5643				
	California . . .	2	1 : 45817				
	Minnesota, New Mexico, Utah, and Oregon . .	22	1 : 4181				
	Total. . . .	14,972	1 : 1305	311	1 : 1397	327	1 : 9799

4. The question may arise, *Has insanity increased in the United States in a greater ratio than the population?* Discrepancies certainly exist between the censuses of 1840 and 1850 sufficient to warrant us in forming one of two hypotheses: either insanity has been on the increase or the returns of the census upon this point are unreliable. We are more disposed to assume the latter position, for reasons which have already been stated. In the census of 1840 the idiotic and insane were not separated in the statistics, while in 1850 an independent enumeration of each class was made. We cannot more appropriately refer to questions arising out of the comparison of the two censuses, than by citing the remarks of Prof. George Tucker* on the results obtained in each: "By this comparison it appears that of the insane and idiotic—

In the white population, the proportion in	1840	was as	1 in 977
" " " " "	1850	"	1 in 688
In the colored " " "	1840	"	1 in 978
" " " " "	1850	"	1 in 1929

The suspicions entertained against the accuracy of that part of the census of 1840 which respected the insane of the colored population, have been justified by subsequent investigations; but, on the other hand, in correcting the error, the correspondent part of the seventh census (1850) seems hardly entitled to our entire confidence. We know that much sensibility was excited by the greater frequency of insanity among the colored race which resulted from that census, and it is possible that the interest thus felt may, in more ways than one, have biased the judgment of the census-takers in placing individuals under this class. Though the census of 1840 unquestionably overrated the number of the colored insane in the Northern States, yet when we saw the proportion gradually increase as we proceeded on the Atlantic coast from Georgia to Maine, and in the West from Louisiana to Michigan, it was not to be believed that the diversity was produced by a correspondent variety and gradation of errors; and, reasoning on probabilities, we were compelled to admit that there was some solid foundation for the difference exhibited, though it might be greatly exaggerated. We may add, that there is intrinsic evidence in favor of the census of 1840 on this point, which that of 1850 does not possess. Nor is this all. That census itself affords grounds for questioning its accuracy. It shows that while in the white population the proportion of the insane and idiotic is as much as 1 in 668, in the colored population it is only 1 in 1929; and though we cannot admit that, in New England, where the colored population shows a small increase, the number of insane and idiotic has fallen from 383 to 45 [55 ?], as the census shows; neither can we readily believe that, contrary to all previous enumerations, the proportion of the white race thus afflicted is three times as great as that of the colored. We must, then, look to future enumerations to decide whether the liability of the last-mentioned race to these mental maladies, which the census of 1840 has confessedly exaggerated in some States, has not been generally underrated by the census of 1850, and whether truth does not occupy a middle point between them." We cannot, therefore, decide whether insanity has increased generally, or whether the influence of race has been exhibited in either an increase or diminution of the tendency to mental alienation in the white or the colored portions of our population.

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* Progress of the United States in Population and Wealth in fifty years. Appendix, p. 24. 1856.

II. STATISTICS OF THE INSANE, DERIVED FROM INSANE INSTITUTIONS.

The annals of the rise and progress of United States Institutions for the Insane may be briefly told. It is the history of philanthropic efforts to protect and relieve a numerous class of unfortunates, to shelter them from injurious influences, and to afford them a home, where, under the attentive care of those who would take an active interest in them, they might be placed under the best possible conditions for improvement or recovery. We cannot furnish a condensed historical account more appropriately than by adopting the brief statement which has already been published by one who has himself had such abundant opportunities of seeing

"That noble and most sovereign reason,
Like sweet bells jangled, out of tune and harsh."

1. Historical Sketch of Institutions for the Insane in the United States.*

"If we take a retrospective glance over a period of less than half a century, we find that, in 1815, throughout the whole domain of the United States, the only separate independent public institution for the insane, was that at Williamsburg, Virginia. That establishment had undergone serious vicissitudes. It was opened during our colonial dependence upon Great Britain, and, in the course of the Revolution, its operations were suspended, and the buildings converted into military barracks.

"In the latter half of the decennium ending on the 31st of December, 1820, two new institutions were opened. These were, the Asylum at Frankford, now

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* Dr. Pliny Earle, "Reports of American Institutions for the Insane," American Journal of the Medical Sciences, April 1857, pp. 442–3.

Philadelphia, in 1817; and the McLean Asylum, in what is now Somerville, Massachusetts, in 1818.

"In the course of the decennium terminating with the close of 1830, five establishments for the insane sprang into existence. The Bloomingdale Asylum went into operation in 1821; the Retreat at Hartford, Connecticut, and the Asylum at Lexington, Kentucky, in 1824; and the Asylums at Staunton, Virginia, and Columbia, South Carolina, in 1828.

"Earliest in the next succeeding period of ten years was the Massachusetts State Hospital, at Worcester, which was opened in 1833; the Vermont State Asylum, at Brattleboro', followed in 1836; the Ohio State Asylum, at Columbus, in 1838; the pauper institutions for the cities of Boston and New York, in 1839; and the Maine State Asylum, at Augusta, in 1840. It was during this period that the greatest impulse was given to the scheme for meliorating the condition of the insane in these United States. In the production of this impulse, no person exerted greater influence than the late Dr. Samuel B. Woodward, who was at that time Superintendent of the Hospital at Worcester. The zeal and hopefulness with which he ever pursued his occupation; the moral glow of sunlight which he disseminated all around him, over a sphere thitherto almost universally regarded, in the popular mind, as shrouded with clouds and involved in darkness; and the elaborate reports which, emanating from his pen, were scattered broadly throughout the country, all contributed to awaken an interest in the subject which had never been previously manifested.

"The decade from 1840 to 1850 exhibited the effect of this increased interest. The Pennsylvania Hospital for the Insane was opened in 1841. In 1841 or 1842, a separate building was erected for the pauper insane of King's County, New York. The New Hampshire State Asylum, at Concord, and the Mt. Hope Institution, at Baltimore, commenced operations in 1842; the Asylum at Utica, New York, in 1843; the Butler Hospital, at Providence, R. I., in 1847; and the State Asylums at Trenton, N. J., Indianapolis, Ind., and Jackson, Louisiana, in 1848. About the middle of this decade, the Maryland Hospital, at Baltimore, theretofore devoted to the treatment of general diseases, was converted into an institution exclusively for the insane. No positive information upon the subject is now accessible to us; but it is our impression, relying upon memory, that the original Asylum at Nashville, Tennessee, and the Asylum at Milledgeville, Georgia, were opened in the early part of this decennium.

"Since 1850, several institutions have been brought into existence. The State Hospitals, at Harrisburg, Pa., Fulton, Missouri, and Jacksonville, Illinois, were organized and first received patients in 1851. The new building of the Tennessee Hospital was so far completed as to be occupied in 1852. The State Asylum at Stockton, California, and the Asylum for the County of Hamilton, Ohio, were opened in 1853; the State Institutions at Taunton, Mass., and Hopkinsville, Kentucky, in 1854; the United States Government Hospital, near Washington; the State Asylum at Jackson, Mississippi, and those at Newburg and Dayton, Ohio, in 1855; and the State Asylum at Raleigh, N. C., in 1856. The new building for the pauper insane of King's County, N. Y., was first occupied by patients in 1855.

"We know of but five private establishments for the treatment of the insane in the United States. The oldest of these is that of Dr. Cutter, at Pepperell, Massachusetts. The late Dr. James Macdonald established a private institute at Murray Hill, New York City, about the year 1837, and some years afterwards removed it to Flushing, Long Island, where it is still continued under the title of Sanford Hall, and in charge of the doctor's brother, General Allan Macdonald. It is one of the most complete and beautiful establishments of the kind in the world. Dr. Edward Jarvis has an establishment at Dorchester, Massachusetts; Dr. Edward Mead one near Cincinnati, Ohio; and Dr. George Cook one at Canandaigua, New York."

Since that time, others have been founded; their names and their dates of opening are furnished in the "The Table of Institutions for the Insane in the United States," on the next page. Their rapid increase in the last twenty years evinces a lively interest on the part of the people of the different States in one of the most numerous classes of infirmities.

The table has been carefully prepared, with a view of affording an opportunity of learning how much has been done in this country to ameliorate the condition of those suffering from mental alienation. Every institution in the United States, whose statistics were otherwise imperfectly obtainable, except that in California, has been applied to for information. Most of them have responded to our desire for accuracy, and we regret that the silence of others may, in a few instances, prevent us from making the record complete. Some of the institutions are supported by appropriations from State Legislatures, some are incorporated, others are pauper institutions connected with the system of city government. Insane inmates may be found in every almshouse, but it has not been deemed expedient to give such an arrangement any prominence, unless the portion devoted to the insane is a separate department under the charge of a superintendent or physician. The word "mixed" implies that the establishment is incorporated but has received aid from the State. The recoveries, deaths, etc., are not furnished as comparative tables of the results of treatment of different institutions, so widely scattered, and therefore so variously exposed to favorable or unfavorable circumstances of climate or locality, but as a sufficiently satisfactory method of condensing the history of each institution, and of exhibiting the number of insane who have received relief from their mental sufferings by recovery or death. Where no mention is made of the time from which the admissions are calculated, it may be inferred that the statistics date back to the opening of the institution.

TABLE OF INSTITUTIONS FOR THE

	STATE.	Location.	Name of Institution.	Foundation.	Date of Opening.
1	Maine	Augusta.	Maine Insane Hospital.	State Inst.	Oct. 14, 1840.
2	New Hampshire	Concord.	N. H. Asylum for the Insane.	“	Oct. 29, 1842.
3	Vermont	Brattleboro'.	Vermont Asylum for the Insane.	“	Dec. 12, 1836.
4	Massachusetts	Worcester.	Mass. State Lunatic Hospital.	“	Jan. 18, 1833.
5	“	Taunton.	“ “ “	“	April 7, 1854.
6	“	Northampton.	“ “ “	“	Aug. 16, 1858.
7	“	Somerville.	McLean Asylum for the Insane.	Corporate Inst.	Oct. 6, 1818.
8	“	South Boston.	Boston City Lunatic Asylum.	Pauper “	…………………
9	“	Pepperell.		Private “	…………………
10	“	Dorchester.	Dr. Jarvis's Private Asylum.	“ “	1843.
11	Rhode Island	Providence.	Butler Hospital for the Insane.	Corporate “	Dec. 1, 1847.
12	Connecticut	Hartford.	Retreat for the Insane.	“ “	April 1, 1824.
13	“	Litchfield.	………………………………………	Private “	Oct. 1858.
14	New York	Utica.	New York State Lunatic Asylum.	State “	Jan. 16, 1843.
15	“	Blackwell's I., N. Y.	New York City Lunatic Asylum.	Pauper “	June 10, 1839.
16	“	New York City.	Bloomingdale Asylum for the Insane.	Corporate “	June 10, 1821.
17	“	Flatbush, L. I.	King's Co. Lunatic Asylum.	Pauper “	Nov. 1, 1855.
18	“	Flushing.	Sanford Hall.	Private “	May, 1846.
19	“	Canandaigua.	Brigham Hall.	Private “	Oct. 3, 1855.
20	“	Auburn.	N. Y. State Lun. As. for In. Conv.	State “	Nov. 1858.
21	New Jersey	Trenton.	New Jersey State Lunatic Asylum.	“ “	May 15, 1848.
22	Pennsylvania	Philadelphia.	Penn'a Hospital for the Insane.	Corporate “	Jan. 1, 1841.
23	“	Harrisburg.	State Lunatic Hospital of Penn'a.	State “	Oct. 1, 1851.
24	“	Near Pittsburg.	Western Pennsylvania Hospital for the Insane.	Mixed “	March 13, 1856.
25	“	Frankford, (Phil'a.)	Asylum for the Relief of Persons deprived of the use of their reason	Corporate “	May 15, 1817.
26	“	Philadelphia.	Insane Department of the Philadelphia Hospital.	Pauper “	…………………
27	“	Delaware Co.	Clifton Hall.	Private “	1860.
28	Maryland	Baltimore.	Maryland Hospital for the Insane.	State “	Jan. 1, 1834.
29	“	Near Baltimore.	Mt. Hope Institution.	Mixed “	1842.
30	Dis. of Columbia.	Near Washington.	U. S. Government Hospital for the Insane.	U. S. “	Jan. 15, 1855.
31	Virginia	Staunton.	Western Lunatic Asylum of Va.	State Inst.	1828.
32	“	Williamsburg.	Eastern “ “	“	
33	North Carolina	Raleigh.	Insane Asylum of North Carolina.	“	Feb. 22, 1856.
34	South Carolina	Columbia.	State Lunatic Asylum of S. Ca.	“	Jan. 1, 1828.
35	Georgia	Milledgeville.	………………………………………	“	…………………
36	Mississippi	Jackson.	Mississippi State Lunatic Asylum.	“	Jan. 8, 1855.
37	Louisiana	Jackson.	Insane Asylum of the State of La.	“	Nov. 21, 1848.
38	Texas	Austin.	Texas State Lunatic Hospital.	“	…………………
39	Missouri	Fulton.	State Lunatic Asylum of Mo.	“	Dec. 1, 1851.
40	Kentucky	Lexington.	Kentucky Eastern Lunatic Asylum	“	1824.
41	“	Hopkinsville.	Western Lunatic Asylum of the State of Kentucky.	“	Sept. 18, 1854.
42	Tennessee	Near Nashville.	Tennessee Hospital for the Insane.	“	March 1, 1852.
43	Ohio	Columbus.	Central Ohio Lunatic Asylum.	“	Nov. 30, 1838.
44	“	Newburg.	Northern “ “	“	March 5, 1855.
45	“	Dayton.	Southern “ “	“	Sept. 1, 1855.
46	“	Mill Creek.	Hamilton Co. Lunatic Asylum.	Pauper Inst.	Nov. 7, 1853.
47	“	Near Cincinnati.	Retreat for the Insane.	Private “	…………………
48	Indiana	Indianapolis.	Indiana Hospital for the Insane.	State Inst.	Nov. 21, 1848.
49	Illinois	Jacksonville.	Illinois State Hospital for the Insane.	“	Nov. 3, 1851.
50	Michigan (*h*)	Kalamazoo.	………………………………………	“	…………………
51	California	Stockton.	State Insane Asylum of California.	“	May 14, 1852.

(*a*) The Institution commenced operations with the reception of 228 cases, principally chronic, 213 being from the other State institutions.

(*b*) Most of those admitted were females.

(*c*) Statistics from 1847 to 1859 only given.

(*d*) Ceased to receive State and County paupers in 1849.

(*e*) The average number in the Institution is here given.

(*f*) Statistics date from April 1, 1856.

(*g*) Statistics date from July 1, 1836.

(*h*) Its opening delayed by a disastrous fire.

INSANE IN THE UNITED STATES.

Admissions.	Recoveries.	Deaths.	Remaining at last accounts.			Date of Statistics.	Name of Superintendent or Physician.
			Males.	Females.	Total.		
2127	871	267	129	108	237	Nov. 30, 1859.	Dr. Henry M. Harlow.
1650	727	172	94	88	182	May 31, 1859.	Dr. Jesse P. Bancroft.
3025	1433		212	219	431	Aug. 1, 1859.	Dr. W. H. Rockwell,
5996	2747	696	152	165	317	Sept. 30, 1859.	Dr. Merrick Bemis.
1343	432	227	165	176	341	Sept. 30, 1859.	Dr. George C. S. Choate.
321	Not given (*a*)	19	98	135	233	Sept. 30, 1859.	Dr. Wm. Henry Prince.
4582	2130	546	85	90	175	Jan. 1, 1860.	Dr. John E. Tyler.
....	....	....	....	....	....	....	Dr. Clement A. Walker.
....	....	....	....	....	....	....	
About 100 (*b*)	....	....	....	....	....	March 5, 1860.	Dr. Edward Jarvis.
904	296	180	68	67	135	Dec. 31, 1859.	Dr. Isaac Ray.
3407	1643	347	105	110	215	March 31, 1859.	Dr. John S. Butler.
....	....	....	....	....	....	June 16, 1860.	Dr. Henry W. Buel.
5828	2340	671	....	....	519	Dec. 1, 1859.	Dr. John P. Gray.
5836	2569	1492	287	424	711	Dec. 31, 1859. (*c*)	Dr. M. H. Ranney.
1923	802	274	68	84	152	Dec. 31, 1859. (*d*)	Dr. D. Tilden Brown.
....	....	....	122	168	290	July 31, 1859.	Dr. Edward R. Chapin.
....	....	....	....	....	34 (*e*)	March 9, 1860.	Dr. Benj. Ogden, Visiting Phy. Dr. J. W. Barstow, Resident Phy.
139	42	10	....	....	40	Feb. 18, 1860.	Drs. George Cook and John B. Chapin.
55	2				51	Sept. 1859.	Dr. Edward Hall.
1563	605	206	141	165	306	Dec. 31, 1859.	Dr. H. A. Buttolph.
3360	1656	363	147	122	269	May 25, 1860.	Dr. Thomas S. Kirkbride.
1192	205	170	149	125	274	Dec. 31, 1859.	Dr. John Curwen.
332	119	33	61	39	100	Jan. 1, 1860. (*f*)	Dr. Joseph A. Reed.
1412	636	195	29	29	58	March 1, 1860.	Dr. Joshua H. Worthington.
....	....	....	....	....	....	....	Dr. S. W. Butler
....	....	....	....	....	....	March 1, 1860.	Dr. Robert A. Given.
1615	664	231	54	52	106	Dec. 31, 1859.	Dr. John Fonerden.
1963	....	....	71	106	177	Jan. 1, 1860.	Dr. Wm. H. Stokes.
270	53	47	....	....	138	July 1, 1859.	Dr. Charles H. Nichols.
1576	640	381	219	153	372	Oct. 1, 1859. (*g*)	Dr. Francis T. Stribling.
....	....	....	147	110	257	Oct. 1, 1857.	Dr. John M. Galt.
233	41	18	95	52	147	Nov. 1, 1858.	Dr. Edward C. Fisher.
1139	468	251	99	95	194	Nov. 5, 1859.	Dr. J. W. Parker.
....	....	....	....	....	....	....	Dr. Thomas F. Green.
260	65	30	65	41	106	Oct. 1, 1859.	Dr. Robert Kells.
851	225	374	89	68	157	Dec. 31, 1859.	Dr. J. D. Barkdull.
....	....	....	....	....	....	Nov. 27, 1857.	Dr. J. C. Perry.
426	133	79	97	74	171	Nov. 24, 1858.	Dr. T. R. H. Smith.
2389	882	926	130	98	228	Sept. 30, 1859.	Dr. W. S. Chipley.
443	111	91	107	97	204	Dec. 1, 1859.	Dr. Francis G. Montgomery.
390	109	45	96	62	158	Oct. 1, 1857.	Dr. W. A. Cheatham.
3480	1792	441	111	103	214	Nov. 1, 1859	Dr. R. Hills.
426	179	19	....	....	148	Oct. 31, 1857.	Dr. R. C. Hopkins.
502	....	40	81	79	160	Nov. 1, 1858.	Dr. J. J. McIlhenny.
913	246	87	143	130	273	June 5, 1859.	Dr. Wm. Mount.
....	....	....	....	....	....	....	Dr. Edward Mead.
1753	819	128	151	152	303	Oct. 1, 1859.	Dr. James S. Athon.
1018	430	92	....	....	229	Dec. 1, 1858.	Dr. Andrew McFarland.
....	....	....	....	....	....	....	Dr. E. H. Van Deusen.
865	480	61	....	....	162	Dec. 31, 1855.	Dr. W. D. Aylett.

NOTE.—One or two changes may have occurred from death or resignation among the superintendents above mentioned, but we have given, as far as was in our power, those whose names appeared upon the latest reports. To those who kindly responded by letter or transmitted to us their reports in answer to our application for information, we desire to return our sincere thanks; and especially do we feel grateful to Dr. Kirkbride and Dr. Edward A. Smith, of the Pennsylvania Hospital for the Insane, for facilities extended to us in our endeavors to furnish accurate and reliable statistics.

A sketch has thus been briefly given of the means which have been afforded by humane sympathy for the care and protection of the insane. That the power of some States to furnish adequate comfort to them is limited, is to be greatly regretted; yet many of the younger institutions are still in their infancy, and have not attained their full development. As they progress in their usefulness, and as soon as the public realize by more accurate statistical details how numerous the unfortunate insane are, in proportion to the number accommodated in insane institutions, fewer patients will remain at home to be a source of anxiety to their families, and the comforts of a home in which they can receive constant medical attention, and be removed from the causes of their malady, will be more fully appreciated.

Facts collected from the materials furnished by so many institutions would, if carefully tabulated, supply statistical information of importance to those of the medical profession who are interested in them. The scanty details from some of the institutions assist in making up a total, but the care with which some of the others have examined into facts connected with the insane, and collated them for the benefit of the public, deserves especial commendation. So many points arise, however, in the consideration of such infirmities, which are of more interest to those connected with institutions than to the profession, that it is proposed to limit the field of our inquiries to questions of general importance which do not exclusively belong to the special province of institutions for the insane only.

Some of the points may be studied as part of the personal history of the patient previous to the attack of insanity, such as the age, sex, conjugal condition, occupation, etc., while others belong more properly to the history of the attack, such as the period of the year, the particular form which the disease may assume, the cause of death, etc. If the attack should not be the first from which he had suffered, we should naturally refer to the previous history of the disease, and learn something of the duration and number of former attacks. Therapeutically, we shall have nothing to say here; to discuss merely a few pathological and psychological points of interest which seem to accumulate upon us at every step, we feel to be a task promising to claim our utmost capacity of time and space. Several considerations would arise, that cannot be properly placed under any of the heads we have mentioned, such as the general liability to second attacks, etc. These, though perhaps indirectly connected with the history of the attack, may be arranged with more advantage under the history of the recurrence of insanity. Adopting the mode of classification of subjects above given, we shall refer first to

2. THE PERSONAL HISTORY OF THE PATIENT PREVIOUS TO THE ATTACK.

This is abundantly illustrated in the statistics of almost all our institutions.

a. Sex.—Of the numerous circumstances under which the female sex is placed by her physical nature, her temperament and sympathies, we might infer that many are favorable to the production of mental disorders, and that woman would, on this account, be more liable to insanity than the other sex. It has been truly said by Cabanis,* that "by a severe necessity attached to the rôle which nature assigns to her, woman is subjected to many accidents and inconveniences; her life is nearly always a series of alternations of health and suffering; and too often the suffering predominates." Yet her constitution resists shocks and trials under which the more robust nature of man would shrink, and her delicate organization seems often to acquire strength after one series of trials to be prepared for those which are to follow.

In viewing the relation of the sexes, in the liability to mental aberration, we must of course bear in mind the greater proportion of males or females in the general population. Erroneous conclusions have in many cases been drawn from the mere fact of the number of insane females being greater in certain portions of the country, to found a theory that the male sex is less liable to insanity than the female. May not this deviation be owing, in some measure, to a difference of occupation or of the circumstances predisposing to mental disorder in the males or females of one part of the United States from those of another? For even if the number of insane females should preserve the same general ratio to the female population, the devotion of the other sex to a different class of occupations might alter the ratios very sensibly. It has been exhibited in the experience of several transatlantic observers, that psychical affections are far more prevalent in manufacturing than in agricultural districts—a fact which might perhaps affect the male ratio of the insane more than the female. The mortality has also been found by statistics to be greater in the male sex than in the female, being estimated by one authority at 50 per cent. greater; while the female recovers more frequently from insanity than the male. We have to distinguish, therefore, between the number of either sex who have actually become insane and those who are found to be so, when mortality or recovery has exerted an influence to modify the ratio. And besides this, moral causes, such as grief, anxiety, etc., affect women more than men, and the chances of recovery being greater in moral causes than in physical, of course fewer women remain for any length of time insane.

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* Rapport du Physique et du Moral de l' Homme, tome i. p. 350. Paris, 1802.

The following details have been collected from the experience of more than forty of the institutions of this country, either during the last year of their recorded observations or throughout the whole course of their career.

Sex of the Insane in United States Institutions.

	Males.	Females.	Total.
U. S. Gov't and State Institutions .	15,328	13,232	28,560
Corporate Institutions	6,245	5,793	12,038
Mixed "	597	497	1,094
Pauper "	3,423	3,880	7,303
Total	25,593	23,402	48,995

In June, 1850, Dr. Edward Jarvis, of Dorchester, Massachusetts, presented to the Association of Medical Superintendents of American Institutions for the Insane, a paper on the "Comparative Liability of Males and Females to Insanity, and their Comparative Curability and Mortality when Insane." His statistics of twenty-one American hospitals represent the proportion of males insane to females as 121 to 100 in a total of 24,573 cases. Our own estimate is founded upon nearly 25,000 more cases than are embraced in the investigations of Dr. Jarvis, and we find a much less difference in the proportion of the sexes than that determined upon at that time: 100 females are found by our own estimates to be insane—judging merely from hospital records—to every 109 males. But the sexes are not represented in the institutions as they are in the general population. We shall hereafter find that the period of life embraced between the years of 20 and 50 is that in which mental disorder is of much more frequent occurrence than after or before those ages. We must, therefore, in order to learn what ratio the sexes bear to each other on the question of insanity between the ages of 20 and 50, determine also their relative number in the general population. The census of 1850, which we may—with some hesitation, perhaps—take as a convenient guide, gives a proportion of 108 males to 100 females in the general population between the ages of 20 and 50. The number corresponds closely enough with that given in the general ratio of the sexes in insane institutions; but then we have to assume that those figures not only correspond with the proportion outside of the institution, but also that, taken without regard to age, they represent the proportion of the sexes under 20 and over 50 years of age—two difficulties which we do not attempt further to solve.

Dr. Thurnham,* in examining this question, in reference especially to

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* On the "Relative Liability of the Two Sexes to Insanity." Quarterly Journal of the Statistical Society of London, December, 1844.

European institutions, assumes that the proportions of men and women *admitted* into public institutions during extensive periods, represent, as, on the whole, they probably do represent, the cases which *occur* for the first time, and remarks as follows: "Having thus shown that in the principal hospitals for the insane in these kingdoms, the proportion of men admitted is nearly always higher, and, in many cases, much higher than that of women; and as we know that the proportion of men in the general population—particularly at those ages when insanity most usually occurs—is decidedly less than that of women, we can have no grounds for doubting that men are actually more liable to disorders of the mind than women." With Dr. Jarvis, we think that any statement in regard to peculiar liability of either sex "must vary with different nations, different periods of the world, and different habits of the people;" and we may add that the peculiar constitution of the American people, as native and foreign born, manufacturing and agricultural, may afford elements for variation, not only in the number of the sane of both sexes, but also in the proportionate relation of the insane.

Leaving this question still in doubtful confusion, we shall examine, under each head, into the influence which sex exerts in the causes and results of mental disorders.

b. Age at which Insanity first appears. We are surprised to find such a scarcity of materials upon one of the most important and interesting points in the whole subject of our researches. We have been unable in many of the reports to find the least reference made to this inquiry; but as the information derived from other reports embraces a large number of cases, what we have obtained in this way may be made the basis of our calculations. Without any regard to sex, we find the ages of first appearance of mental disorders to be as follows, in thirteen institutions, bearing in mind always that we can never know certainly, from the accounts of family or friends, the exact time when eccentricity or morbid peculiarities of disposition first exhibited themselves.

Age at which Insanity first appeared.

(STATISTICS OF THIRTEEN UNITED STATES INSTITUTIONS.)

	No. of Cases.	Percentage for each period.
Under 20 years of age	1724	13·8
20 to 30 " "	4421	35·3
30 to 40 " "	3117	24·9
40 to 50 " "	1880	15·0
50 to 60 " "	861	6·9
60 to 70 " "	354	2·8
Over 70 " "	115	·9
Total	12,472	

It will thus be seen that more than 75 per cent. of the insane embraced in this analysis became so between 20 and 50 years of age. We are disposed to think that a larger number become insane between the ages of 20 and 25 than at any other period of five years, but we cannot assert this confidently. A table like that given above, although instructive in some respects, is not perfect, unless we examine into the proportion in the general population of those who are between the ages mentioned. Accepting the census of 1850, with all its imperfections, as our standard, we exhibit in the table the number at each age in the general population; to which the percentage of insane, considered as to the appearance of insanity at corresponding ages, may be added as a means of comparison.

	General population.	Insane.
Under 20 years of age	52·4 per cent.	13·8
20 to 30 “ “ . . .	18·4 “	35·3
30 to 40 “ “	12·1 “	24·9
40 to 50 “ “ . . .	7·9 “	15·0
50 to 60 “ “	4·7 “	6·9
60 to 70 “ “ . . .	2·6 “	2·8
Over 70 “ “	1·5 “	·9

From this comparative table, we learn the interesting fact, which a simple reliance on the previous figures would have left undiscovered, that the ages between 30 and 40 are the most liable to insanity, and that the other periods of life are liable in the following order:—

From 30 to 40.
“ 20 to 30.
“ 40 to 50.
“ 50 to 60.
From 60 to 70.
Over 70.
Under 20.

Insanity attacks the two sexes at different periods. Thus, of 9951 cases of mental aberration comprised in the preceding statistics, of which 5211 were males and 4740 females, it is found by a comparison which we have made of the prevalence of insanity in either sex at particular ages, with the number of the general population at corresponding ages, that in many cases while one sex predominates in the general population, the other may be in a greater proportion among the insane. We of course assume that the figures taken from our asylum statistics may be taken as a fair standard of the relation of the insane of each sex outside, a mode of reasoning which we admit allows of many objections. We find as the result of these inquiries that—

Males are more liable under 20 years of age.
Females are rather more liable from 20 to 30 years of age.
No difference of liability exists between 30 and 40 years of age.
Females are decidedly more liable between 40 and 50 years of age.

Females are decidedly more liable between 50 and 60 years of age.
Males are decidedly more liable between 60 and 70 years of age.
Males are decidedly more liable over 70 years of age.

If, instead of basing our calculations as to the prevalence of insanity in each sex at particular periods upon the age of first appearance of insanity, we should take the *age of admission* into insane institutions as our guide, we might arrive at slightly different conclusions. But as that mode of classification is not a fair test of the period of life which is most subject to mental disorder, and as the information elicited is more interesting to those who devote themselves to the care of the insane than to the general reader, we shall only briefly allude to the ages at the time of admission, as follows, in statistics of 11,598 cases:—

More patients are admitted between 20 and 30 years of age; and then in the following order: 30 to 40, 40 to 50, 50 to 60, under 20, 60 to 70, and, lastly, over 70. We find by reference to the statistics of Dr. Earle,* of 1710 admissions into Bloomingdale Asylum, (N. Y.,) that our conclusions coincide exactly with his.

It will be seen that some difference is observed here between the two modes of viewing the question of age; and it may be shown that, as far as the sexes are concerned, men are admitted in larger proportional numbers into the institutions from which we have quoted these statistics, between the ages of 30 and 40, 40 and 50, and 50 and 60; and that women occupy a similar pre-eminence at ages under 20, from 20 to 30, 60 to 70, and over 70.

c. Single or Conjugal Condition.—It is not our intention here to dwell upon domestic difficulties and ill-assorted matrimonial alliances as causes of mental aberration. However powerful they may be, we must not lose sight of the occasional probability of attacks of insanity occurring, and leading to the very results—painful distrusts and exhibitions of temper in the family circle—which are so often regarded as the causes instead of the effects. We touch lightly here upon such domestic calamities, and refer merely to the actual condition of celibacy, married life, or widowhood, preferring to mention only the fact that the patient was single or married, without inquiring whether he may not have remained single because he had exhibited some mental peculiarity. From the recorded statistics of 20 institutions—and we refer to none other than American institutions whenever we use the term—we have 25,721 cases placed in the category of single, married, widowed, and divorced, which we may classify, as follows:—

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* History of the Bloomingdale Asylum for the Insane, p. 65; New York, 1848.

Single	12,462 or 48·4 per cent.
Married	11,150 or 43·3 "
Widowed	2,092 or 8·1 "
Divorced	17
	25,721

We should naturally infer that married life would be less frequently a cause of insanity than celibacy, from its being generally a more settled condition of existence, and less liable to fluctuations of agitations and emotions of the mind; and yet the thousand sources of anxiety which a sensitive mind may feel for the happiness of those immediately around him may disturb the mental equilibrium of the married state, and induce morbid changes in his disposition and attachments.

When we consider *the sexes in their relation to the married state*, we find the sex given in 20,281 instances of those mentioned above. These we may arrange as follows:—

Males:	
Single	5,772 or 55·5 per cent.
Married	4,090 or 39·3 "
Widowers	537 or 5·1 "
	10,399
Females:	
Single	4,233 or 42·9 per cent.
Married	4,311 or 43·6 "
Widows	1,338 or 13·5 "
	9,882

We thus see that a greater proportion of married females to the whole number of insane females exists than of married males to the whole number of insane males, while the single males are in a much greater proportion than the single females. The widows are far more numerous in proportion, according to this estimate, than the widowers. The experience of American institutions on the subject of marriage or celibacy, as a cause of mental aberration may, therefore, be summed up as follows:—

Out of every 1000 cases of insanity, without regard to sex, 433·8 are married, 484·5 single, and 81·3 widowed; and of every 1000 cases of the male sex, 555 are single, 393 married, and 51 widowers; while of the same number of females, 429 are single, 436 married, and 135 widows.

d. Occupations.—We can draw no inferences as to the greater prevalence of mental disorder in particular trades or occupations from the mere statement of the fact that a certain number of persons who are engaged in them are insane, unless we also make some estimate of the proportion which occupations bear to each other in the general population. Such an estimate is possible, when we have such facilities for obtaining it as are furnished by the United States census returns. Although errors may exist in it, so also may mistakes creep into the statistics of occupations furnished by ignorant persons to insane institutions. It is, therefore, for ordinary purposes, sufficiently reliable as a means of comparison. For convenience sake, we may adopt a system of classification similar to that suggested originally in the census statistics of Great Britain, and modified so as to adapt it better to the peculiar circumstances of the United States. Any classification must be difficult, but this is perhaps sufficiently simple. We give the percentage of each class in the general population, and of the insane of each class in 7329 cases, collected from the statistics of fourteen American institutions. The majority of our insane hospitals, probably believing the subject a matter of less importance than the minority are disposed to consider it, pass it by entirely without remark of any kind.

*Occupations of the Insane previous to the Attack.**

	Percentage in gen. pop.	Percentage among Insane.
1. Commerce, trade, manufactures, mechanic arts, and mining.	29·72	39·90
2. Agriculture.	44·69	29·10
3. Labor, not agricultural.	18·50	13·98
4. Army and navy.	·10	·70
5. Sea and river navigation.	2·17	3·50
6. Law, medicine and divinity.	1·76	7·00
7. Other pursuits requiring education.	1·78	4·00
8. Government civil service.	·46	·34
9. Domestic servants.	·41	.54
10. Other occupations.	·41	·90

We thus see a disparity, which may be made much more manifest by an arrangement under separate heads of the principal occupations, which bear a greater ratio to the insane than to the general population, or the reverse. It will be seen, as might naturally be expected, that professional pursuits—and especially the learned professions—are more liable to insanity than those which are not characterized by great mental tension. Farmers, devoted to a quiet life of agricultural occupation, and removed from causes which distract the mind and harass the spirits of the busy commercial world, are able to live more regularly than the participants in active city life, and hence are found low down in the scale of liability to insanity. We should expect, in our political system, with changes going on perpetually, that government officials would rarely be attacked with mental disorder connected in any way with their occupation, because the system of rotation does not often allow them a political life of sufficient duration to disturb their mental equilibrium.

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* This table, it may be remarked, embraces in the first column the employments of the white and free colored only, while the other *may* (we do not know that it does) include also the slave population. The number of slaves insane is, however, insignificant.

Occupations which bear a greater ratio to the number of the Insane than to that of the General Population.

The learned professions—medicine, divinity, and law.
Other pursuits requiring education.
Sea and river navigation.
Commerce, trade, manufactures, mechanic arts, and mining.

Occupations which bear a greater ratio to the number of the General Population than to that of the Insane.

Agricultural pursuits.
Government civil service.

It is scarcely worth while inquiring into the relative liability of particular trades, such as shoemaking, tailoring, etc. which are embraced in the main headings given above, although we may devote a moment's consideration to classes 6 and 7 in the previous table, both of which are connected in some way or other with mental development or education. Leaving out of view those illustrations of each which furnish so trifling a number of cases as to make their statistics comparatively worthless, it will be interesting to know how the learned professions, in which we include clergymen, lawyers, doctors, and students generally, compare as to liability to mental aberration; and how also pursuits requiring education, such as those of teachers, artists, druggists, engineers, etc., differ in their tendencies to insanity. The order seems to be as follows:—

Law, medicine, and divinity.	Pursuits requiring education.
Students.	Artists.*
Lawyers.	Druggists.
Physicians.	Teachers.
Dentists.	Musicians.
Clergymen.	Engineers, etc.

Comparing these two classes with one another, we have the educated classes, *par excellence,* liable to insanity in the following order:—

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[*] We do not doubt that we might assign to *authors* one of the highest places in the table, if we felt ourselves justified in using the meagre statistics we have at hand in regard to them.

Artists.
Druggists.
Students.
Teachers.
Lawyers.
Physicians.
Dentists.
Clergymen.
Musicians.
Engineers.

No statistics have been furnished in the United States census returns of the number of females occupied in the different branches of industry, so that it would be impossible for us to make any comparative table of occupations of that sex, as predisposing to insanity. Domestics, seamstresses, and teachers seem to be in large numbers, and so also do the wives and daughters of farmers and laborers, whose occupations must be of a domestic nature; but all these classes are numerous also in the general female population, and we should therefore expect insanity to be prevalent among a large number in each.

e. Hereditary predisposition doubtless exists in a far greater number of cases than is generally supposed. Few of our institutions, however, class the inheritance of mental alienation among the causes in their lists, and in only one or two instances is any mention made of it at all. We know from other sources of information, such as those supplied to us by European channels, that particular forms of insanity may be transmitted from parent to child, and that the eccentricities and disordered understanding peculiar to the one may, by hereditary predisposition, appear in all their force in the mental development and characteristics of the offspring. So much did Esquirol believe in the transmission of hereditary insanity that he considered that six-sevenths of all his patients had been blighted by such a heritage. Believing that this predisposing cause of insanity is so imperfectly recognized, or, if recognized, so unsatisfactorily and unreliably recorded, that it assumes statistically but little importance in the reports of hospitals for the insane, it is deemed expedient to extract from Dr. Earle's "History of the Bloomingdale Asylum" (p. 80) a few remarks on hereditary predisposition in cases admitted into that institution. "Of 1841 patients, 323—of whom 187 were males, and 136 females—are recorded as having one relative or more insane; this is equivalent to 17½ per cent. The percentage in each sex, taken separately, is as follows: men, 17·16; women, 18·11. It is not to be presumed, however, that this is even a near approximation to the number actually having relatives of disordered mental powers.

"*Of the men* included in the foregoing table, 118 inherited the predisposition from direct ancestors, and 33 of these had other relatives insane. Of the remainder, 68 had collateral relatives insane, but no direct ancestors; and one had a child insane. Of the 52 who had insane parents, it was the father in 27 cases, and the mother in 25. In one of these, both father and mother had been deranged. It is also stated that two of those included under the term hereditary, had ancestors, both paternal and maternal, who were subject to the malady. *Of the women*, the predisposition was transmitted from direct ancestors in 89, of whom 67 had other relatives insane. In the remaining 42, the disease is stated to have appeared only in persons collaterally connected; and in 5 cases in their children alone. There are 18 cases in which it is mentioned that the father was insane. In 1 case, the father and mother were both deranged. In the case where it is asserted that the whole family were insane, it is said that all her father's family, which consisted of 12 children, had been deranged, and that their insanity did not, in a single instance, make its appearance before the age of 21 years. Two brothers were patients here in 7 instances, 3 brothers in 2, a brother and sister in 2, 2 sisters in 3, 2 sisters and 2 of their cousins in 1, mother and son in 3, father and son in 1, father, daughter, and her son in 1, mother and daughter in 3, and uncle and niece in 1. It is obvious that the foregoing statistics are not sufficiently full or definite to be adopted as accurate data from which to estimate the proportion of the insane in whom it is transmitted from the father's or the mother's side, or any of the other important questions involved in the subject."

Such are the main points of interest in relation to the subject of family predisposition; they embrace much more minute details than can be found elsewhere in American reports. We regret our inability to make them more copious. It is generally supposed that those cases of insanity which are transmitted in families do not respond to treatment as readily as others which are spontaneous in their origin.

b. While referring to the hereditary transmission of insanity, we may appropriately speak of the influence of *marriages of consanguinity* in the production of mental alienation. The vital statistics of marriage are not dwelt upon in any of the statistical records which it has been our province to consult. Dr. Bemiss,* of Louisville, Ky., has made quite extensive investigations into the claims of intermarriage of blood-relations, to a place among the predisposing causes of disease in the offspring, to which we may refer those who are desirous of studying the subject more fully. Insanity results far less frequently than forms of imperfect development, such as give rise to idiocy, deaf-muteism, etc. The State Government of Ohio seems to have taken considerable trouble to collect details connected with this point; and although the report upon it is very imperfect, or totally deficient in some counties, Dr. Bemiss has been able to collect materials enough on which to base the following calculations: "If the same ratio be supposed to exist throughout the Union, (as in the Ohio Report,) there would be found, to the twenty millions of white inhabitants, six thousand three hundred and twenty-one marriages of cousins, giving birth to 3909 deaf and dumb, blind, idiotic, and insane children, distributed as follows:—

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* Report on the Influence of Marriages of Consanguinity upon Offspring, by S. M. Bemiss, M.D., Louisville, Ky. Transactions of the American Medical Association, vol. xi. p. 319. 1858.

Deaf and dumb	1116
Blind	648
Idiotic	1854
Insane	299

Then, if the figures of the last United States census still applied to our population, there would now be found in the Union—

9,136 deaf and dumb, of whom 1116 or 12·8 per cent. are children of cousins.
7,978 blind, of whom 648 or 8·1 per cent. are children of cousins.
14,257 idiotic, of whom 1844 or 12·93 per cent. are children of cousins.
14,972 insane, of whom 299 or 1·9 per cent. are children of cousins."

Such are the calculations of probabilities founded upon the history of a large number of illustrations of infirmity in the United States, which have been connected in some way—we will not say positively dependent on—circumstances of relationship such as we have described. They form an interesting supplementary matter for investigation, after the remarks already made on hereditary predisposition.

g. Education, systems of religion, etc., doubtless exert a powerful influence upon the mental development of the individual; but no accurate data are obtainable by which we may recognize how extensive that influence may be in a country like our own, so differently constituted from every other in its systems of education and its numerous forms of religious belief.

Education, when carried so far as to produce overstrained mental exertion, will frequently, doubtless, in the more delicately constituted organization of some children, prove occasionally mentally injurious, and sow the seeds of future perversion of the intellectual and moral faculties. How far this influence is exerted in this country, we are unable to say.

3. HISTORY OF THE ATTACK.

Having studied the personal history of the patient previous to the attack, we have next to inquire into the statistics of the most interesting points connected with the history of the attack itself. Although many of the causes which excite to insanity might be said properly to belong to the general field of inquiry through which we have already traveled, yet the causes and results may be more appropriately studied in conjunction than in any other mode. Great difficulty must exist sometimes in defining the exact lines, where one subject begins to be perfectly distinct from another, and hence any method of classification must have its defects. We shall find, indeed, that the two divisions we have adopted will occasionally run into each other, as when we refer to the influence of sex or marriage, both of which belong to the personal history of the patient, upon mortality or recovery, subjects appropriately considered in relation to the history of the attack. It seems advisable, however, to adopt some classification of this kind, as a means of avoiding the confusion which would result from the clustering together of so many points of interest in a chaotic mass.

Included in this department of our subject are the exciting causes of insanity, whether moral or physical; the statistics of recovery and mortality; and the influence of sex, marriage, and other conditions upon each. The recorded statistics on some of these points are copiously illustrative, but many of the reports of institutions neglect them entirely for the sake of dwelling upon other matters of purely local interest.

a. Causes of Insanity. The Tables of Causes which are furnished must always be very imperfect. Many of them are imaginary, and were two sane members of the same family consulted as to the antecedents of the attack, it is exceedingly doubtful whether they would assign the same causes. Especially is this the case in hereditary insanity, to mention which is by some regarded as a slur upon the family escutcheon, the publication of a stain upon family good name, by those who have no right to intrude within the privacies of a home-circle. We have heard of cases in which the father of a family had positively denied the existence of hereditary insanity in the presence of a relative, who was more honest, and less disposed to embarrass the researches of the physician. Against all these sources of error, the incompetency of deciding as to the true cause, the unwillingness to expose family infirmities, the conjectural idea that some one cause may have been more potent than another, and the concealment of domestic troubles and difficulties, the physician has to contend in his attempts to study the subject intimately.

The effect is doubtless very often made to supply the place of the cause, and because a patient exhibits a tendency to certain forms of mental alienation, the form itself is assigned as the cause of the malady. For example, when we find, as we very often do, religion placed among the causes of insanity, on what strict premises can we infer that anxiety in regard to a future state has been the true moral cause? Insanity may have existed unsuspected, and when fully developed, may have assumed the form of religious mania; but surely a thousand causes might have existed previously. The fallacies of the tables which occupy a large space in some of our reports are numerous, and yet the greatest refinement of divisions, down to the most trivial of probabilities, is practiced without any attempt at a classification which would throw light upon the often obscure etiology of the affection. Added, therefore, to the ignorance or concealment of friends of the patient, we have often the confusion of subjects and the deficiency of classification of those who have the ability to simplify. Between the two dilemmas, one is almost tempted to make the simplest division of causes; for instance, into those which produce insanity from the mere brooding over imaginary or real griefs, and of those which operate otherwise; in some general plan of this kind disposing thus of the whole subject. With the materials before us, however, we must extract, if possible, as much really useful statistical information as is practicable under the circumstances, even though the causes stated are often mistaken ones.

The general division of causes, which has been usually adopted, is into those which are *predisposing*, and those which are *exciting* or *productive* of insanity. Numerous circumstances of constitutional predisposition, of temperament, education, sex, and age, exist to induce a predisposition to insanity; while who can estimate the number of exciting causes enumerated as the active agents in its production?

Exciting Causes, Moral and Physical. We may again subdivide the exciting causes into moral and physical; the latter class, it has been asserted, is more frequently met with among the lower ranks of society, while the former belongs to a higher class, whose intellects are more developed, and whose minds are subjected to more extensive influences. The passions and emotions, when viewed as causes of mental alienation, are referred to the class of moral causes. Physical causes include such agents as act by some influence exerted externally, and only secondarily affect the nervous system, while moral causes exert a decided influence on it from the very inception.

We have taken considerable care and trouble in classifying the moral and physical causes of insanity in 11,259 cases, furnished in the reports of a large number of institutions. With a mental reservation, that accuracy is not always perfectly attainable, we may gain a certain amount of intelligence of the early history of the attack. We may illustrate what we mean by moral and physical causes in the following examples:—

Moral causes, as domestic difficulties, religious anxiety, political excitement, intense mental application, etc. *Physical causes:* Intemperance, ill health, epilepsy, sensuality, etc.

The distinction is generally an obvious one, and the cases are readily arranged under one or the other heading. It will be seen by the following table that the physical causes predominate over the moral—a fact which is denied as probable, when applied to many of the European institutions, but yet which has been previously recognized as true in regard to the statistics of our own insane hospitals:—*

Table of Moral and Physical Causes of Insanity, (11,259 *cases.*)

Moral Causes.		Physical Causes.		
Domestic troubles and griefs	928	Ill-health and unclassified diseases	2,388	3067
Religious anxiety	792	Fevers	199	
Mental anxiety	721	Epilepsy	319	
Financial difficulties, reverses of fortune, etc.	652	Cerebral disease	117	
Loss of friends	585	Paralysis	44	
Disappointment in love, ambition, etc.	576	Intemperance and dissipation	1202	
Excessive study or application to business	165	Conditions peculiar to women	891	
Fear and fright	126	Vicious habits and indulgences	514	
Defective education	37	Wounds and blows	250	
Uncontrollable temper	32	Excessive use of opium, tobacco, etc.	129	
Nostalgia	29	Exposure and loss of sleep	123	
Political excitement	22	Spiritualism	94	
Unclassified moral causes	40	Exposure to sun or heat	74	
		Over-exertion	62	
		Old age	32	
		Unclassified physical causes	172	
Total	4,649	Total	6,610	

One great difficulty in the perfect isolation of the physical causes is the condition, assigned most frequently as a cause, which, meaning nothing or everything according to the interpretation of the person who furnished it, is termed "Ill health." Whether it should be called a cause or an effect must often depend on circumstances of the history of the case which are beyond our powers of research to discover. But we place it where it generally has a position, among the physical causes of insanity, although it may sometimes include and conceal others, such as intemperance and dissipation, or sensuality. We cannot point out here the great defects of any such system of classification; we refer now merely to the fact that the moral causes constitute only two-fifths, and the physical causes three-fifths of the whole number of causes above given. A glance at the table shows the order in which causes, taken as a whole, and not as divided into moral and physical, are arranged as exciting to insanity, and exhibits that ill health and intemperance rank first, domestic troubles and griefs next in order, then the conditions peculiar to women, and so on.

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* Bucknill and Tuke, Manual of Psychological Medicine, Philadelphia, 1858, p. 257.

Sex has an important influence in the distribution of moral and physical causes. The circumstances of exposure form so decided an element in the latter class, that we would naturally suppose man to be much more liable to them than woman; while the latter would suffer more from domestic troubles, and from loss of those cherished by her, from the fact that, in the absence of occupation, she would probably brood over her misfortunes. Thus, of 3118 moral causes included in our table, in which the sex was known, 1585, or 51 per cent., were females, and 1533, or 49 per cent., males. If we omit, for a moment, from the list of causes of insanity, financial difficulties, politics, and application to business, which are almost exclusively sources of insanity of males, we shall find, in the more delicate emotions and passions, that woman becomes insane from moral causes in 57 cases out of every hundred, while man only suffers in 43 cases.

The reverse is true of physical causes, and *a fortiori*, if we exclude from consideration diseases peculiar to females. Including all the causes of this class in both sexes, the males are to the females as 53 to 47; excluding the diseases of women, a proportion exists of 66 males to 34 females.

Having thus accounted for the production of the attack of mental aberration, we may watch its progress until it becomes introduced to the care and attention of an institution devoted to its protection and relief. Several considerations are worthy of being studied from the time of the invasion of the disease up to its actual admission to an insane hospital. By that time it will have assumed a definite form, such as dementia, melancholia, etc., and have possessed some interest in its duration; its probable prognosis for recovery, or the reverse, being often influenced by the fact of its being an acute or a chronic case when admitted.

b. The Special Forms of Insanity. It is not our province to suggest any system of classification different from those adopted by experienced authorities on this subject, and we therefore, for simplicity's sake, employ that followed in the Report of the Pennsylvania Hospital for the Insane,* embracing the division into mania, melancholia, monomania, dementia, and delirium, the last of which, being so very unfrequent, is scarcely worthy of being referred to here. In the words of the Report of the Bloomingdale Asylum: "The nosology of mental diseases is still so imperfect, that it is difficult to make an arrangement of cases which would be of any material value, either practical or theoretical. Indeed, there are scarcely two physicians who would classify a series of cases, such as are admitted into any institution, in precisely the same manner. A case called partial insanity by one person might be termed monomania by another. That which one records as monomania, another would place under the head of melancholia. There being no definite line between mania and dementia, a given case might be placed under the former by one physician, and under the latter by another. A perfect nomenclature of insanity is a great desideratum."*

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* Report of the Pennsylvania Hospital for the Insane for the year 1859, p. 45. By Thomas S. Kirkbride, M.D. 1860.

Now that the terms are rather more intelligible than they seem to have been formerly, the degree of confusion is less marked, and we may arrange under a few heads almost all of the forms which insanity assumes. In 7322 cases, embracing the four forms, mania, melancholia, monomania, and dementia, the number of each is as follows:—

Mania	3789, or 51·7	per cent.
Melancholia	1366, or 18·7	"
Dementia	1265, or 17·3	"
Monomania	902, or 12·3	"

The influence of *sex* is visible in the distribution of the special forms of insanity, in the same number of cases, including 4230 males and 3407 females, as follows:—

Of the males,	2090, or 51·7	per cent.,	were attacked with	mania.
	781, or 19·3	"	"	dementia.
	648, or 16·0	"	"	melancholia.
	520, or 12·9	"	"	monomania.
Of the females,	1699, or 51·7	per cent.,	were attacked with	mania.
	718, or 21·8	"	"	melancholia.
	484, or 14·7	"	"	dementia.
	382, or 11·6	"	"	monomania.

While each sex, therefore, is attacked with mania in an equal proportion, men are more often the subjects of dementia than women, and the latter more often suffer from melancholia. This fact bears a decided influence upon the curability of the sexes, as we shall hereafter see.

We need not enter into a minute consideration of the various subdivisions of each form of insanity, such as that species of mania which is connected with the puerperal state, or that which assumes incendiary, homicidal, or suicidal tendencies. Interesting as they would be, viewed as collateral subjects of inquiry, it is scarcely appropriate that we should attempt any brief analysis of so much that may be found ably discussed in special treatises on these various forms of mental alienation. Puerperal insanity has been very fully investigated by numerous medical writers, and has lately undergone a careful statistical analysis in the pages of the *American Journal of Insanity.**

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* History, etc. of the Bloomingdale Asylum, New York, 1848.

c. The *influence of season upon the admissions* into institutions for the insane is sensibly apparent for both sexes combined, and for each sex separately. Thus we find in 21,072 cases the following results :—

Influence of Season upon Admissions.

		No. of Admissions.	Per cent.	
Winter months.	December	1469	6·9	20·6 per cent.
	January	1513	7·1	
	February	1375	6·5	
Spring months.	March	1665	7·9	26·6 per cent.
	April	1845	8·7	
	May	2109	10·0	
Summer months.	June	2293	10·8	29·2 per cent.
	July	2063	9·7	
	August	1809	8·5	
Autumn months.	September	1755	8·3	23·4 per cent.
	October	1669	7·9	
	November	1507	7·1	

It is thus exhibited that the summer months are those in which the greatest number of insane patients are admitted into our institutions. June seems to take the precedence, a fact which coincides with the opinion of M. Esquirol, and of MM. Aubenel and Thore,† as the result of their European investigations; but May ranks higher in the list of American monthly admissions than they are disposed to place it. The order of the seasons, derived from the above table, is summer, spring, autumn, and winter. The admissions do not of course represent the *occurring* cases of insanity, but only such as are admitted into institutions; some of them being chronic cases, while many of them are acute. The results for the sexes, individually, are as follows :—

	Per cent. Winter.	Per cent. Spring.	Per cent. Summer.	Per cent. Autumn.
Men	21·0	26·1	29·1	23·6
Women	19·16	27·0	29·7	23·5

The relative frequency of admission being very nearly the same in each sex during the summer and autumn, it will be seen that a greater proportion of the men are admitted during the winter, and of the women during the spring. It will be shown hereafter that season also influences the termination of insanity in recovery or death.

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* Observations upon Puerperal Insanity, by Richard Grundry, M.D., Assistant Physician to the Southern Ohio Lunatic Asylum. (Reprint). Utica (N. Y.) State Lunatic Asylum, 1860.

† Bucknill and Tuke, op. cit. p. 249.

d. Duration of Insanity previous to Admission.—The details of 10,304 cases furnish the fact that 60 per cent. of the cases admitted into our American institutions have only been insane for a few months, the greater majority being less than 6, and a few ranging from 6 to 12 months; while more than a quarter of the cases, about 2600 in all, have been insane from 1 to 5 years. The result of such cases must, of course, vary according to the general duration of the attack, chronic cases being much more intractable than acute. But this branch of our inquiry belongs more appropriately to the consideration of the terminations of insanity.

III. INSANITY CONSIDERED IN ITS RESULTS.

The experience of insane institutions throughout the world exhibits great diversity in the results of different modes of treatment, in the restoration to health or in the tendency to relapse or death. So much depends upon other circumstances, too, than the mere routine of treatment, and so many more influences operate to produce a change in the condition of a patient in some parts of the country than in others, that the measures adopted for his restoration may prove less beneficial in one institution than in another. Climate is not one of the least important of these influences, and season exerts a decided effect upon the curability or non-curability of insanity. We need but consider three terminations of an attack of insanity, viz., restoration to good health, confirmed dementia, and death. And yet how difficult to decide in regard to a perfect restoration! Must we merely take the statistics as we find them, and consider the case cured, because at the time of departure from an institution it was regarded as "cured" or "recovered?" How much more perfect would be a history of the after-life of the individual during the first year, or two years, afterwards, for instance, giving information of the permanency of the cure or the reverse! It is a fact that can scarcely admit of contradiction, that the friends of a patient who has been discharged "cured" from an institution, will, occasionally, when a relapse has occurred, have diminished confidence in the mode of treatment, and decline to send him back to that institution, or perhaps place him under the charge of some other. These are the cases which prevent statistics from being perfectly accurate; the early history is incomplete, and his friends may, perhaps, conceal the fact of his previous residence in another institution. As this, however, may apply to all such cases and all such establishments, a certain amount of practical information may be derived from the statistical records of recoveries, relapses, and mortality. Death alone is certain; its statistics are invariably fixed; but the history of the progress of the case toward a fatal termination assumes a thousand varied phases.

It has been frequently asserted that insanity is a morbid condition upon which remedies may be employed in vain; that incurability is the rule, and recovery the exception. We need not appeal to European sources for a refutation of this fallacy; our own institutions afford abundant means of exhibiting how frequently the careful attention and skill of the physician are rewarded and his labors blessed with abundant sources of congratulation. Very few, however, have it in their power to watch the cases which leave them, improved, or removed sometimes too early, doubtless, by the over-anxious interference of friends. Those who die while under the care of institutions afford only an approximative means of calculating the proportionate mortality; for we cannot tell how many may have left the institution to die at home. Another difficulty in the way of accuracy of details exists in the admixture of chronic cases, which present but slight prospects of recovery, with those acute or less chronic cases, of which hopeful anticipations may be indulged. The proper mode to estimate the proportionate number of recoveries and deaths is to compare them, wherever it is practicable, with the whole number of admissions; but the great majority of the institutions follow a different method, and base their calculations upon the discharges, instead of the admissions. We shall adopt that mode here, and at the same time, if practicable, compare the result with the number of admissions also.

1. *Recovery* must depend upon various circumstances of age, sex, season, etc. Restoration is the result in a very large nnmber of cases, but the chances for a favorable result must be influenced largely by conditions that operate in all diseases, whether mental or physical. A general idea of the proportion of recoveries may be given, however, without specifying what were the extraneous influences at work to modify the nature of the termination of the attack. In 15,235 cases discharged from a number of American hospitals, the recoveries were 6549, or 42·9 per cent. of the whole number; while in 58,607 cases admitted into 33 hospitals, the number of recoveries was 24,937, or 42·5 per cent. It seems to make no material difference whether we calculate recoveries according to the discharges or the admissions, the percentage being very nearly the same. This percentage is higher than that given many years ago by Esquirol, as the result of the experience of the best English and French hospitals for the insane, the ratio of recoveries to admissions being at that time only 39 per cent. in nearly 22,000 cases.

a. The *sex* of 10,679 cases admitted into a number of hospitals, and examined in their proportion of restorations, gives the following ratio:—

2452	recoveries in	5699	male admissions, or	43·0	per cent.
2230	" "	4980	female " "	44·8	"
4682		10,679		43·8	per cent.

In 17,833 cases discharged from 23 institutions, the proportion of recoveries in each sex is as follows:—

4095	recoveries in	9200	males discharged, or	44·5	per cent.
3947	“ “	8633	females “ “	45·7	“
8042		17,833		45·0	per cent.

Recovery is, therefore, more probable among females than among males, a fact which has been often noticed by those interested in insane matters. This more favorable result in that sex depends on the form of the attack, etc., and sometimes on revolutions in her system, which produce happy changes when the resources of medical art have been ineffectual. Women suffer much more from melancholia than men, while the latter are more subject to dementia. The latter being in the majority of cases incurable, as we shall presently see, some reason seems to exist in this fact why the female sex should recover more often from insanity than the male.

b. *Season*, too, slightly influences the period of recovery, but our statistics are too meagre for perfect reliance on any deductions. In the Pennsylvania Hospital for the Insane, the recoveries have been as follows:—

Winter months	360
Spring “	410
Summer “	475
Autumn “	411

But we have no satisfactory record of the experience of other institutions.

c. The *form* assumed by the attack modifies the prognosis as to the result. Thus in 6306 illustrations of four forms of insanity, discharged,—

3576 were cases of mania, of which 2620, or 73·2 per cent., had recovered.
1400 were cases of monomania, of which 829, or 59·2 per cent., had recovered.
819 were cases of melancholia, of which 457, or 55·8 per cent., had recovered.
511 were cases of dementia, of which 85, or 16·6 per cent., had recovered.

Mania is the form most curable, and dementia that which is least tractable to remedial or other influences.

d. The *duration of the attack*, of course, has much to do with the prospects of recovery; the acute cases being much more susceptible of relief than the chronic. Thus of 619 cases that were chronic when admitted into one of our institutions,* only 130, or 21 per cent., recovered; while of 1134 that were recent, 688, or nearly 61 per cent., recovered. In another,† only 20·03 per cent. of cases that were of more than twelve months duration, when admitted, recovered; while 67·08 per cent. of those of twelve months duration or less, when admitted, were restored to health. In one institution,* 80 per cent. of the recoveries during the year ending October, 1859, had taken place "in cases which had been less than three months insane; 87 per cent. in cases which had been less than six months insane; and 93 per cent. in cases which had been less than one year insane. At the same time it should be remembered that in certain exceptional cases recovery may take place after the lapse of many years." What volumes does this not speak for the early introduction of insane patients to the care and attention of insane institutions! Such has been the experience of every one who has devoted any attention to mental pathology. "If," says Dr. Jarvis, "insane persons are allowed to enjoy the means of healing in the early stages of their disorder, about 75 to 90 per cent. can be restored to health." Of 880 cases discharged from five institutions in one year, 726, or 82 per cent., were recent cases.

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* Indiana Hospital for the Insane, 1859.

† Report of the W. Virginia Asylum, 1859.

2. *Mortality of the Insane.* We can readily understand how life may be shortened by attacks of insanity which exhaust the vital forces and so seriously disturb the various functions. An eminent writer assigns, as one of the modes in which the insane may fatally terminate their attacks of insanity, the masking or concealing of dangerous affections by the mental disease, complaints of the patient being frequently overlooked and taken for delusions, and the true pathology not being detected until after death.† Undoubtedly this is frequently true, but whatever be the cause of death, there are certain points which can only be studied in relation to the general subject of mortality, independent of the cause, whatever it may be, that may have terminated life—such as the relative number of deaths to the number of admissions or discharges, and the influence of sex, etc., on mortality.

In thirty-three of the U. S. institutions, the number of deaths based upon 56,405 admissions was 8638, or 15·3 per cent.; while in 15,235 cases discharged from twenty-one hospitals for the insane, 3256 died, or 21·3 per cent. One reason of this disparity between the admissions and the discharges is obvious—a large number of those cases which have undergone no improvement remain in an asylum, and do not, therefore, swell the list of discharges. Compared with the recoveries, we have the following favorable or fatal results in a corresponding number of cases:—

	Per cent. recovered.	Per cent. died.
Of those admitted	42·5	15·3
" " discharged	42·9	21·3

a. The *sex* is given in 3557 deaths, based upon 18,594 admissions, as follows:—

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* Sixth Annual Report of the State Lunatic Hospital at Taunton, Massachusetts, 1859, p. 28.

† Dr. Copland. Dictionary of Practical Medicine. Vol. II. London, 1858, p. 472.

1957 deaths in 9760 male admissions, or 20 per cent.
1600 deaths in 8834 female admissions or 18·1 per cent.

If we study the fatal results in proportion to the discharges of each sex, we have 11,857 cases on which to found an estimate, 2631 of which proved fatal:—

1414 males died, or 22·5 per cent. of the males discharged.
1217 females died, or 21·7 per cent. of the females discharged.

In each mode of viewing the question of mortality of the sexes, we find the males dying in a larger proportion than the females.

b. The *seasons* at which the mortality appears to be the greatest are summer and autumn, and afterwards spring and winter. But in a country like our own, which has so many different climates, the effect of season must vary materially according to the locality of the institution, and we are not therefore justified in drawing inferences for the whole country, from the greater tendency which seems to exist toward fatal terminations of insanity in any set of institutions situated in the North or the South. Conclusions arrived at from such premises are not worthy of being recorded.

c. We have but little information as to the fatal results of any of the *forms* of mental disorder; the experience of our own institution gives the following mortality of each:—

Mania,	156	deaths in	1569	cases admitted, or	9·9	per cent.
Melancholia,	72	"	819	" "	8·7	"
Monomania,	21	"	411	" "	5·1	"
Dementia,	105	"	296	" "	35·4	"
Delirium,	9	"	11	" "	81·8	"

We need not here dilate upon the pathology of those forms of mental alienation which are so violent or so destructive in their nature as to afford but a slight chance of recovery, nor refer more particularly to the greater curability of certain other forms, in which death is the great exception.

d. The *causes of death* among the insane are of course very numerous, being modified, however, according to location and season, according to influences similar to those which operate in the general population. Thus, at times when cholera was prevalent, the mortality of some of our institutions, especially those intended for the reception of pauper patients, was materially increased. This will partially account for the greater number of cases in which death was ascribed to diseases of the digestive apparatus in the following statistics. Although so prominent in the list, we are disposed to assign it a lower relative position from the influence which this disease may have exerted. Of nearly 2100 causes of death, gleaned from the records of our asylums for a series of years, 677, or nearly five-sixteenths, were affections of the nervous system, not including exhaustion, which would add a sixteenth more to that class of causes; more than two-eighths (613 cases) were diseases of the digestive apparatus, and the same proportionate number (604 cases) were morbid conditions of the respiratory apparatus, while fevers, accidents, suicides, etc. made up the balance. This result coincides pretty closely with that obtained by Esquirol in the post-mortem examination of more than 600 cases of insanity. He found that three-eighths had died of diseases of the abdomen, two-eighths of diseases of the chest, and three-eighths of alterations of the brain and membranes. Dr. Copland, in calling attention to these investigations of the distinguished psychologist, observes, "the proportion here assigned to the first class of diseases is probably too high, and especially in respect of this country,"* (England.) The remark is applicable also to the mortuary statistics of the insane in the United States.

3. *History of the Recurrence of Insanity.* We have been baffled in a great measure in an attempt to discover what proportion of cases in our hospitals for the insane were not first attacks, but mere recurrences, probably after intervals of apparent sanity in many of the cases, by the little attention paid to this branch of inquiry. It is exceedingly difficult, also, to trace the history of a patient who leaves one institution, after what seemed to be a perfect restoration to health, to enter another, in which the fact of previous attacks may be concealed or not carefully inquired into. Nor does the mere fact stated, that the patient is suffering from a first attack when admitted, prove that he may not have been intermittently or remittently insane or incurable for a series of years. But taking the classification as we find it in the records of three extensive institutions, we have 5370 admissions into institutions classified in the order of attack, as follows:—

Number of the Attack.

	Number.	Percentage.
First attack	3790	70·5
Second attack	924	17·2
Third attack	309	5·7
Fourth attack	145	2·7
Fifth attack	75	1·4
Sixth attack	47	·9
Seventh attack	30	·5
Eighth attack	12	·2
Ninth attack	38	·7
	5370	

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* Copland, op. cit. Vol. II., p. 473.

Thus, 1580, or 29·4 per cent. of the cases were other than first attacks. About 28 per cent. of the males were second and subsequent attacks, but the percentage of females was somewhat greater, being as much as 31 per cent. But all these statistics are liable to errors and difficulties such as we have already indicated, so that we cannot rely confidently on the accuracy of deductions from them. We need not here inquire into the number of those who are admitted more than once into the same hospital in a series of years, as our information is indefinite and inconsequential.

Such are the prominent topics which we have deemed worthy of investigation, in the recorded statistics of our American institutions for the insane. The omission of several important subjects, which would have added fullness to our remarks, without increasing their value as results of the observations and experience of hospitals in this country, has afforded us an opportunity of studying much more carefully points of general interest, which are not matters of medical curiosity alone. It has not been our object to dilate on abstract questions of insanity, or to point out peculiarities in systems of treatment, or to devote any attention whatever to such considerations as can have attraction to psychologists only. Even some of the minor points of statistical interest have been passed over without remark, mainly because it has not been thought expedient to deduce general laws from meagre results, which have only been recorded in one or two institutions. A complete treatise on insanity would also include all the complications of morbid phenomena which attend or are consequent upon attacks of mental disease, as well as a more full investigation of the post-mortem appearances observed in such cases. The phrenologist may interest himself in the form of the osseous prominences of the insane; the pathologist may watch the progress of the case from its inception to its close, and eagerly pursue his inquiries into the precise portion of the cerebral organs which has undergone a serious lesion, and hope to throw new light where all is darkness; and the therapeutist may strive in vain to procure the recovery of his patient while he allows him to remain exposed to the causes of his malady. It has been the purpose of this article to watch merely the results of the observations of each, and, discarding some of their conclusions as unreasonable and unreliable, to furnish some of those which exhibit most satisfactorily, although occasionally but imperfectly, what the United States has been able to accomplish for the unfortunate sufferers from mental disease who have been the recipients of her active sympathy and philanthropy.

ART. III.—*Practical Observations upon the Nature and Treatment of Prostatorrhœa.* Read before the Medical Society of the State of Pennsylvania, in June, 1860. By S. D. GROSS, M.D., Professor of Surgery in the Jefferson Medical College of Philadelphia.

THE disease which I am about to describe has not, so far as is known to me, received any attention either from specialists or from the authors of general treatises on surgery. The term by which it is here designated appears, it is true, in M. Nélaton's "Elémens de Pathologie Chirurgicale," but altogether in an incidental manner, and evidently without any definite idea on the part of that distinguished writer as to the true nature of the affection in question.

Prostatorrhœa is, as the term implies, a discharge from the prostate gland, generally of a thin mucous character, dependent upon irritation, if not actual inflammation, of the component tissues of that organ. The reason why the disease has not hitherto received any specific name or place in surgical nomenclature, is simply because it has always been confounded with other lesions, as gleet, or chronic urethritis, seminal losses, and cystorrhœa, or chronic inflammation of the mucous membrane of the bladder; from which, in fact, it is often difficult to distinguish it. As for myself, I have long been familiar with the affection, and latterly have described it in my lectures at the College.

I have not met with prostatorrhœa in children or very young subjects, probably because all kinds of diseases of the prostate are so very rare at that period of life. That it may occur, however, even at a very tender age, is altogether likely, especially in children laboring under stone in the bladder, prolapse of the bowel, or worms in the rectum, causing the organ to suffer from reflected irritation. After the twentieth year the disease is sufficiently common, and instances are occasionally met with even in very old persons. As long as the prostate gland remains small and inactive, or is not brought fully under the influence of the sexual organs, with which it is so intimately associated, it is comparatively infrequent.

I am not able to say, from my experience, what classes of persons are most liable to suffer from this affection; but it has seemed to me that it is most frequent in those of a sanguineo-nervous temperament, with strong sexual propensities, leading to the frequent indulgence of the venereal appetite, if not to positive venereal excesses, either in the natural manner or by masturbation. An irritation would thus seem to be established in the prostate gland, attended with more or less discharge of its peculiar secretion, either in a normal or abnormal state. Single and married men are, apparently, equally prone to it. Once established, it is probable that certain occupations may serve to keep it up; and it is also likely that there are certain employments which may predispose to it, although it would require a much longer experience than what is possessed by any one individual to point them out in a definite or satisfactory manner. Intemperance in eating and drinking, frequent horseback exercise, sexual abuse, and disease of the bladder, anus, and rectum, may all be regarded as contributing to such a result.

The exciting *causes* of prostatorrhœa are not always very evident. In most of the cases that have fallen under my observation, the affection was traceable, either directly or indirectly, to venereal excesses, chronic inflammation of the neck of the bladder, stricture of the urethra, or disease of some kind or other of this canal. In some cases it has its origin in disorder of the lower bowel, as hemorrhoids, prolapse, fissure, fistule, ascarides, or the lodgment of some foreign body. It is easy to conceive how reflected irritation might induce this disease. The connection between the prostate gland and ano-rectal region is very close and intimate, and, hence, whatever affects the one will almost be sure, in time, to implicate the other, either in consequence of proximity of structure, or as an effect of the laws of sympathy. However this may be, no judicious surgeon ever omits to examine these parts most thoroughly in the event of any serious disease of any of them before he attempts a course of treatment. Temporary prostatorrhœa is occasionally excited by the exhibition of internal remedies, as drastic cathartics, cantharides, and spirits of turpentine; or, in short, whatever has a tendency to invite a preternatural afflux of blood to the prostate gland and neck of the bladder, or to the posterior portion of the urethra. Another cause of the disease, and, according to my experience, a very common one, especially in young men, is masturbation or self-pollution. Many of the most obstinate and perplexing cases of it that have come under my notice were the direct result of this detestable practice.

The *symptoms* of prostatorrhœa are sufficiently characteristic. The most prominent, as already stated, is a discharge of mucus, generally perfectly clear and transparent, more or less ropy, and of varying quantity, from a few drops to a drachm and upwards, in the twenty-four hours. It is seldom that it is puriform, and still more rare that it is purulent. When considerable, the flow keeps up almost a constant moisture at the orifice of the urethra, and may even make a decided impression upon the patient's linen, leaving it wet and stained, somewhat in the same manner as in gleet or gonorrhœa, though in a much less marked degree. The most copious evacuations of this kind generally occur while the patient is at the water-closet, engaged in straining, especially if the bowels are constipated, or the fæcal matter is uncommonly hard, or greatly distends the rectum, so as to exert an unusual amount of pressure upon the prostate gland.

The discharge, whether small or large, is often attended with a peculiar tickling sensation, referred by the patient to the prostate gland, from which it frequently extends along the whole length of the urethra, and even to the head of the penis. In some cases, indeed in many, the feeling is of a lascivious, voluptuous, or pleasurable nature, not unlike that which accompanies the earlier stages of sexual intercourse. Not a few patients experience what they call a "dropping sensation," as if the fluid fell from the prostate gland into the urethra. Other anomalous symptoms often present themselves, such as a feeling of weight and fatigue in the region of the prostate, the anus and rectum, or along the perineum, with, perhaps, more or less uneasiness in voiding urine, and a frequent desire to empty the bladder; some patients are troubled with morbid erections, and their sleep is interrupted with lascivious dreams.

It is astonishing how much the patient's mind often suffers in this affection. The discharge, even if ever so insignificant, occasions him the greatest possible disquietude; for at one time he imagines that it is a source of much bodily debility, or that it is productive of weakness and soreness in the dorso-lumbar region, especially if these symptoms happen to coexist; at another, that he is about to become impotent, under the delusive idea that the flow is one of a seminal character; an idea which not unfrequently haunts him day and night, and from which hardly anything can, perhaps, even temporarily divert his attention. His mind, in short, is poisoned, and the consequence is that he is incessantly engaged in trying to obtain relief, running from one practitioner to another, distrusting all, and affording none an opportunity of doing him any good. In the worst forms of the affection, his business habits are destroyed, he becomes morose and dyspeptic, and he literally spends his time in watching for the discharge which is the source and cause of his terrible suffering.

The affections with which prostatorrhœa may be confounded are the various forms of urethritis, especially gleet or chronic gonorrhœa, discharges of semen, and chronic inflammation of the bladder.

From urethritis, whether common or specific, it is generally easily distinguished by the history of the case, the nature of the discharge, and the attendant local phenomena. In most cases, the affection comes on gradually, not suddenly, as in gonorrhœa or simple inflammation, and without impure connection; the discharge is white or grayish, translucent, and ropy, not purulent, opake, and yellowish; and there is ordinarily no burning or scalding in micturition. Moreover, there is seldom any evidence of inflammation in the urethra or penis. In gleet or chronic urethritis the signs of distinction are sometimes more difficult; but even here a satisfactory conclusion may generally be reached by a careful consideration of the history of the case, and a proper examination of the discharge, which is nearly always more or less puriform, as well as more abundant than in prostatorrhœa. When the discharge of the urethra is kept up by the presence of a stricture, the diagnosis can be determined only by a thorough exploration with the bougie.

Very many patients confound this discharge with a flow of semen; an idea in which they are often encouraged by their attendants, in consequence of their ignorance of the nature of the affection. Much has been said and written respecting diurnal spermatic emissions; but, according to my experience, these evacuations are among the rarest occurrences met with in practice. We are often told that they take place at the water-closet, during efforts at straining, and this is, no doubt, occasionally the case; but more commonly it will be found that these discharges are of a strictly prostatic character, the fluid being forced out of its appropriate receptacles into the urethra, along which it is presently discharged. This delusion will be more likely to take hold of the mind if the escape of the fluid be accompanied by a sort of pleasurable sensation, somewhat similar to that which follows a feeble emission. Persons affected with prostatorrhœa will often tell us that they have quite a number of such evacuations—perhaps as many as six or eight—during the twenty-four hours, especially if they are troubled with disease of the ano-rectal region, leading to frequent visits to the water-closet, or if they are much in female society, engaged in exciting reading, or addicted to the pleasures of the table or to inordinate sexual intercourse, eventuating in general and local debility. Should the history of the case fail to afford the requisite light, it may be promptly supplied by a miscroscopic examination of the suspected fluid, semen always revealing distinct spermatozoa, whereas the prostatic and urethral secretions never afford any such indications. This will be the case whether the discharge be taken fresh from the orifice of the urethra or from the stiffened spots left upon the patient's linen.

The characteristic symptom of cystorrhœa, or chronic inflammation of the bladder, is an inordinate secretion of mucus, associated, in nearly all cases, with an altered condition of the urine, frequent and difficult micturition, pain in the region of the affected organ, as well as in the surrounding parts, and more or less constitutional disturbance. In prostatorrhœa there may also be more or less uneasiness low down in the pelvis, with trouble in voiding urine, especially where the prostate is much enlarged, so as to cause constant vesical irritation; but the two disorders are so widely different as to render it impossible to confound them.

The *pathology* of this affection consists in some disorder of the prostate gland, especially of its follicular apparatus, leading to an inordinate secretion of its peculiar fluid, and to a discharge of this fluid along the urethra, at longer or shorter intervals, and in greater or less quantity. That this disorder is, at times, of a real inflammatory nature, would seem extremely probable from the character of the concomitant phenomena, and also from the fact that this organ is frequently, if indeed not generally, found to be more or less enlarged and indurated. Nevertheless, there are cases, and these are by no means uncommon, in which it is, to all appearance, either entirely healthy, or so nearly so as to render it impracticable, by the most careful exploration, to discover any departure from the normal standard. The discharge under such circumstances seems to be the result solely of a heightened functional activity, probably connected with, if not directly dependent upon, disorder of the seminal vesicles, the urethra, neck of the bladder, or recto-anal structures; in other words, upon reflected irritation, or, as our professional forefathers would have denominated it, sympathetic disturbance.

The *prognosis* of prostatorrhœa is generally favorable; for it does not, in itself, present anything grave, being, as just stated, not a disease, but merely a symptom of a disease, usually slight, and therefore easily removable. Its obstinacy, however, is often very great, and hence the surgeon should always be guarded in the expression of his opinion respecting a rapid cure. When the mind deeply sympathizes with the local affection, as is so frequently the case, especially in young men of a nervous, irritable temperament, there is no disease which, according to my experience, is more difficult of management, or more likely to result in vexation and disappointment.

In the *treatment* of this affection, one of the first and most important objects is to inquire into the nature of the exciting cause, and, if possible, to remove it. To set about it in any other way would be the climax of absurdity; for here, as everywhere else, our therapeutic measures must be based upon a rational pathology, or a full appreciation of the nature and seat of the disease. The points which should more especially claim attention are, first, the condition of the prostate and its associate organs, and, secondly, the habits and state of health of the patient.

The first of these indications is best fulfilled by a thorough exploration of the genito-urinary apparatus and of the anus and rectum. For this purpose, a catheter is employed with a view of ascertaining the condition of the urethra, the prostate, and the bladder, aided by the finger in the bowel, previously emptied by an enema. In this manner, the surgeon becomes at once apprised of the existence or non-existence of stricture of the urethra, and of the presence or absence of morbid sensibility of its mucous membrane; the size and consistence of the prostate, and the state of the urinary reservoir, particularly as to whether there is inflammation, stone, hypertrophy, or other lesion. The finger in the rectum will be of great service, not only in detecting disease in the prostate and bladder, but also in this tube itself and in the anus. Indeed, without its aid no exploration of these organs could be at all satisfactory. If disease of the seminal vesicles exist, it will usually be evinced by tenderness on pressure through the wall of the bowel, provided the finger is sufficiently long or the prostate is not too voluminous.

The habits of the patient should be particularly inquired into. In many of this class of persons they are decidedly lascivious, or marked by excessive sexual indulgence, either naturally or in the form of masturbation, the prostate gland, seminal vesicles and adjoining structures being thus kept in a state of continual excitement, highly favorable to the production of prostatorrhœa. The nature of the patient's diet, his temperament, the state of his health, and his mode of life as it regards sleep and exercise, both of mind and body, also deserve special consideration.

Having ascertained the above facts, or, in other words, having made himself perfectly familiar with the local and general condition of the patient, the surgeon will be able, in most cases, to institute something like a rational mode of treatment. This should be directed, as a general rule, partly to the system at large, partly to the suffering structures.

In many of the cases the patient is weak, or deficient in muscular and digestive power, indicating a necessity for tonics, as iron and quinine, a nutritious diet, with a glass of generous wine, and gentle exercise in the open air, either on foot or in an easy carriage; riding on horseback being scrupulously avoided as likely to keep up undue excitement in the parts. One of the best preparations of iron is the tincture of the chloride, in union with tincture of nux vomica, in the proportion of twenty drops of the former to ten of the latter, four times a day. If the patient be plethoric, he may use with great advantage small doses of tartar emetic in the form of the antimonial and saline mixture, care being taken not to nauseate. In either case, it is of paramount importance to correct the secretions and to maintain a soluble condition of the bowels. Drastic purgatives are of course avoided, as they would only tend to perpetuate the mischief. Unless the patient is actually debilitated, he should rigorously abstain from condiments and high-seasoned dishes.

Among the more important topical remedies are, first, moderate sexual indulgence, as a means of allaying undue excitement of the prostate and its associate organs; secondly, cooling and anodyne injections, or weak solutions of nitrate of silver and laudanum, or, what I generally prefer, Goulard's extract with wine of opium, in the proportion of from one to two drachms of each to ten ounces of water, thrown up forcibly with a large syringe three times a day, and retained three or four minutes in the passage. In obstinate cases, cauterization of the prostatic portion of the urethra, or even of the entire length of this tube, may be necessary, the operation being repeated once a week. The cold hip-bath should be used twice in the twenty-four hours; the lower bowel should be kept cool and empty; and, if the disease do not gradually yield, leeches should be applied to the perineum and around the anus.

Such, in a few words, is a brief outline of the treatment which I have found most efficacious in this affection. Whatever plan may be employed, perseverance and an occasional change of prescription are indispensable to success. When there is deep mental involvement, hardly anything will effect a cure; or, more correctly speaking, it is almost impossible to induce the patient to believe that he is well, or that nothing serious is the matter with him. Under such circumstances our chief dependence must be upon travelling and an entire change of scene and occupation. If the patient be single, matrimony should be enjoined.

Bi-Monthly Abstracts;

OR, BI-MONTHLY NOVELTIES IN MEDICAL, PATHOLOGICAL, SURGICAL, OBSTETRICAL, PHYSIOLOGICAL, AND CHEMICAL SCIENCE.

SURGERY.

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I.—*On Lithotomy, considered as a Cause of Death. With Remarks on the Present State of the Operation usually called the "Rectangular Operation for the Stone;" and on the best Method of extending the ordinary Incisions in that Operation, for the purpose of extracting Stones of unusually large size.* By PROFESSOR A. BUCHANAN, M.D., University of Glasgow. (Glasgow Medical Journal, April, 1860.)

IT is known to most of our readers that the operation of lithotomy by the rectangular staff was first introduced into practice in 1846, by Professor Buchanan, and, with the exception of the Glasgow surgeons, it has not been generally adopted. Indeed, so far as we have been able to learn, it has been performed but twice out of Glasgow—once by Mr. Spence, of Edinburgh, and once by Professor Gross, at the clinic of the Jefferson Medical College, about eighteen months ago. Quite a number of modifications have been made in the rectangular staff, and in the method of holding it; but to perform the operation as described by the author, the instrument must be held in one invariable position, that is, with the groove under the level of the bulb of the urethra, which will permit the knife to penetrate into the bladder by the shortest possible route.

Dr. Buchanan is very sanguine as to diminishing the mortality of lithotomy by his method, and thinks that, when adopted, it will show a success greater than that attained by any other operation. Of upwards of sixty cases, cut by ten different surgeons, the average number of deaths has been but one in twelve; and although founded upon so limited a number of cases, the success shows a great saving of life, which is the more satisfactory, since the operation has undergone many important modifications, as suggested by extended experience, from the date of its introduction. In the six fatal cases death ensued very rapidly, and in five of these the post-mortem appearances were singular, and identically the same. The first fatal case occurred in the practice of the late Dr. Lawrie, the patient being dead in a little more than twenty-four hours. There was found intense ecchymosis of the superior and posterior surfaces of the bladder and of the adjacent parts, and on lifting up the intestines a small quantity of sanguinolent fluid was discovered on each side of the abdominal cavity. The peritoneum showed no signs of inflammation. Four of the other cases were charaterized by the same appearances, which existed in a greater or less degree, and in one the ecchymosis extended along the whole of the rectum and a part of the sigmoid flexure of the colon. The sixth fatal case does not come under this category, but death was caused by mechanical contusion of the bladder and of the perineum. All these patients, therefore, died of injuries inflicted by the operation, from special errors in the mode of cutting.

Four causes render the operation for stone in itself dangerous, when performed upon persons of good general health, and in whom the organs are not unsound, namely—1. Infiltration of urine into the subserous cellular tissue of the peritoneum, and the passage of it through that membrane, by osmosis or simple percolation, into the interior of the peritoneal cavity. 2. Infiltration of urine into the subfacial cellular tissue of the pelvis, while all access to the peritoneal cavity is debarred by the dense fibrous membrane. 3. Mechanical contusion of the bladder and parts adjacent, of which what is called "shock" is the most severe form. 4. Hemorrhage.

1. Infiltration of urine in itself is not necessarily a cause of death, excepting in certain regions, as is well seen in external effusions of this fluid into the perineum. The first form of infiltration had never been recognized as a distinct affection until the rectangular operation came into use, whereas the other form occurs after the lateral operation. The five cases of death, briefly noticed above, come under this head, and in regard to one, in which the ecchymosis had involved the rectum and a portion of the sigmoid flexure of the colon, Dr. Buchanan remarks: "I traced the blood all around the rectum, where that intestine is covered with peritoneum, and beyond the reflection of the peritoneum I found the blood extending downward, between the rectum and bladder, as far as the external wound." The blood had, therefore, traveled from the external wound into the cellular tissue, between the rectum and bladder, as far as the recto-vesical pouch, and, following the course of the peritoneum, had diffused itself over the bladder, the rectum, and the colon. The fluid found in the peritoneal cavity was urine mixed with blood, which, having followed the same route as the latter fluid, entered the abdomen by osmosis, and thus produced rapid death.

2. This cause of death has never been observed after the rectangular method, but should it occur, the patient will not be so seriously affected immediately after the operation, nor will dissolution take place so rapidly as in the first form.

3. Mechanical contusion of the bladder and perineum resulted fatally in one case. The stone was of large size, and the usual incision on the rectangular staff having been made, it was prolonged upward; but this not allowing the extraction of the calculus, the bilateral section of the soft parts and of the prostate was resorted to. Death ensued in four days, from subacute peritonitis.

4. None of the cases perished from this cause; but should the staff be held too high, instead of with the groove under the level of the bulb of the urethra, the spongy portion and bulb will be wounded, and a profuse hemorrhage be the result.

In regard to the best mode of extending the ordinary incisions of the rectangular operation for the purpose of extracting stones of large size, the author advises the upward incision, for by cutting too far laterally or downward, risk is run of urinary infiltration. The upward incision can even be carried beyond the base of the prostate, dividing the bladder to any necessary extent, and this, with the lateral incision first made, will permit the extraction of a voluminous calculus. The mode in which Professor Buchanan performs the incision upward is by means of the *finger-director*, which he thus describes: "It is a metallic cylinder, tapering from the rounded point to the base, open in front, and fitting like the finger of a glove to the index finger, while the handle attached to the back part of it lies flat upon the back of the hand. This tapering cylinder, fitted upon the index finger, enters the wound with the same facility as the index itself; and the part of it at which its further progress is arrested gives an accurate measurement of the circumference of the wound of the prostate. The handle of the instrument being now securely held, while the open side of the instrument is turned upward, the forefinger feels with much nicety the tense fibres stretched over the open groove which require to be divided, and this is done by one or more incisions with a curved bistoury."

[The only case of lithotomy, in which the method of Professor Buchanan has been resorted to in the United States, occurred at the clinic of the Jefferson Medical College, in the hands of Professor Gross, on the 18th of December, 1858. The patient, a young man seventeen years of age, had shown well-marked symptoms of stone for fifteen years, and his general health was bad. Two very large uric acid calculi were removed, and the operation was attended with considerable hemorrhage, all the arteries of the perineum being much enlarged in consequence of the long-continued irritation excited by the presence of the calculi. On the third day the urine came away by the urethra, and the patient was discharged cured at the expiration of three weeks.]

II.—*New Operation for the Removal of Naso-pharyngeal Polyps.* By Prof. B. Langenbeck. (Deutsche Klinik, No. 48, 1859.)

Since attention has again been directed to the osteogenic properties of the periosteum, through the interesting physiological researches of M. Ollier, surgeons have evinced a growing zeal in applying the facts deduced from his experiments to their various operative procedures on the bony structures, and in a paper on "Osteoplastic Operations," by Professor Langenbeck, of Berlin, we find that this distinguished surgeon has devised a new and ingenious operation for the removal of naso-pharyngeal polyps, showing that reunion in a bone, which has been separated from its osseous connections, can be effected, provided it remains united by periosteum to the parent bone.

The case was that of a young man, eighteen years of age, who was admitted into the surgical clinic of the University of Berlin, on account of two large fibrous polyps which impeded respiration, and occupied the space behind the soft palate. Their large volume did not permit their removal through the nose, or by section of the hard and soft palates, and Professor Langenbeck, therefore, with the view of avoiding great disfigurement, resected the right nasal bone, and the nasal process of the superior maxilla, saving a bridge of periosteum, by which these bones adhered to the surrounding parts, and promoted their union when replaced. The operation was performed in November last, by carrying an incision from the nasal eminence over the right nasal process of the superior maxilla to the wing of the nose. The skin was then dissected up, so as to leave the periosteum intact, and the bones being thus fully exposed, were detached from the wing of the nose. Cutting forceps, carried along the nasal suture as far up as the nasal spine of the frontal bone, separated the right nasal bone from the left, and the base of the nasal process was divided by a transverse cut extending into the maxillary sinus. The bones were then raised by an elevator introduced into the nose, and the nasal bone being separated from the frontal, the bony flap was held up on the forehead, thus allowing the easy extraction of the polyps. The luxated bones, which remained adherent by a flap of periosteum and of mucous membrane an inch in width, were then replaced, and the wound was brought together by silver sutures. On the fifteenth day after the operation the cure seemed to be complete. For the first few days there was some swelling of the soft parts, which disappeared under the use of cold water, and when the patient was dismissed the wound was thoroughly united, and no pain was experienced by pressure upon the resected bones, although there yet existed slight tumefaction over the nasal process of the superior maxilla.

III.—*Ligature of the Femoral Artery for the Cure of Elephantiasis of the Leg and Foot.* By T. L. OGIER, M.D., of Charleston, South Carolina. (Charleston Medical Journal, March, 1860.)

In conformity with the practice of Professor Carnochan, Dr. Ogier ligated the femoral artery of a negro man, twenty-six years of age, for elephantiasis, of enormous size, of the leg and foot, the disease having existed for five years. The vessel was tied without difficulty in the lower portion of Scarpa's triangle; but traumatic fever followed the operation, which was successfully combated by the tincture of veratrum viride. The leg and foot began to decrease in size after the second day, and on the twelfth day, when the ligature came away, the volume was not more than one-half that it was before the operation. On the morning of the fifteenth day secondary hemorrhage occurred, which was controlled by a firm compress, retained for twelve days by means of a bandage. Three months after the ligation of the artery, the affected tissues had almost resumed their natural size, and the patient walked about without experiencing any uneasiness.

[When the reporter was one of the resident physicians of the Philadelphia Hospital, he witnessed the operation of ligation of the femoral artery for elephantiasis of the right leg and foot, on a negro man, thirty-eight years of age. The parts were very voluminous and of dense consistence, and the disease had existed for nine years, being accompanied by constant pain. The artery was tied on the 17th of May, 1857, by Dr. Campbell, then surgeon-in-chief, and the ligature came off on the thirteenth day. No perceptible alteration in size followed the operation, and a year afterwards the condition of the leg and foot was not materially changed.]

IV.—*On the means to be employed in Syncope from Hemorrhage after Surgical Operations.* By M. DEBOUT. (Bulletin Général de Thérapeutique, Feb., 1860, and Lancet, May 12, 1860.)

In a paper published in 1859, M. Debout showed the good effects which he had obtained in a case of syncope following parturient hemorrhage, from the use of the heated steel button and injections of wine, and he thinks that transfusion of blood is indicated when these means fail. In the fainting resulting from surgical hermorrhage the treatment must be different, and the author concludes his valuable paper with the following propositions:—

1. Syncope following traumatic hemorrhage is a more serious symptom than the fainting resulting from uterine hemorrhage, both on account of the nature of the blood lost, and its less rapid escape; it may, therefore, be affirmed that the means found successful in the latter complication are not, as a consequence, likely to be efficient in the former.

2. As syncope, in traumatic hemorrhage, is the result of want of stimulus to the nervous centres, the remedy will consist in putting the patient upon his back, and in lessening the extent of the circulation by abdominal pressure.

3. As we are to be especially anxious for the energy and duration of our therapeutic interference, we should add to the physical action of the means above alluded to the stimulation of the heated steel knob, rapidly carried over various parts of the cutaneous surface, and assist this operation by enemata of wine. This syncope is so perilous that all the above measures combined will never be too powerful. The analysis of a small number of cases proves that transfusion of blood affords but short relief in these cases.

V.—*Secondary Amputations after Gunshot Wounds.* By M. JULES ROUX. (Journal de Progrès, 27th April, 1860.)

On the 24th of April of the present year, M. Roux, of Toulon, presented to the Paris Academy of Medicine a very interesting paper on secondary amputations in gunshot wounds attended with fracture of the bone, and discussed more especially the important subjects of osteomyelitis, and the substitution of consecutive disarticulation for amputation in the continuity of a limb. As one of the surgeons of the Marine Hospital of Toulon, the author has had ample opportunity of studying this class of affections, and he advises, when the osteomyelitis has existed for some time, to disarticulate a limb above the point of injury, thus getting rid of all the disease. His success in these cases has been remarkable, for we find that of twenty-two operations all were cured, and these include four coxo-femoral and thirteen shoulder disarticulations.

The great majority of surgeons will not be disposed to agree with all the opinions of the author in regard to osteomyelitis, for it is certainly not of so frequent occurrence as he states, and when it does exist, is often spontaneously cured. Moreover, surgeons in these cases have amputated limbs in their continuity and saved their patients, notwithstanding they have found the bone and marrow seriously affected. The conclusions of M. Roux, deduced from numerous cases, are the following:—

1. Osteomyelitis is inevitable after gunshot wounds, but it is most frequently cured.

2. It attacks more or less promptly the whole of the bone, and is here a fixed pathological fact.

3. Secondary amputation or resection hazarding the non-removal of all the disease, leave a part of the affected bone.

4. We may attribute to these partial operations upon the bone primarily

affected, the unsuccessful results which lead most often to the death of the patient, and which are perhaps the principal cause of the want of success of secondary amputations.

5. If in from six months to a year after the receipt of a gunshot wound a cure has not taken place, and an operation is indispensable, it will be necessary, in the majority of cases, if not in all, to disarticulate the diseased bone and give up resection and amputation in the continuity.

In an interesting discussion which followed the reading of the paper, M. Larrey made many valuable remarks, showing the results of his large experience in this affection, and regretted that M. Roux had not sufficiently pointed out the anatomical characters of the three stages of the disease, or those of hyperæmia, softening, and suppuration. He thought the following propositions of M. Roux too absolute, namely—First, that in the first period, or that of hyperæmia, the osseous wound must always suppurate; and, second, that the stage of softening coincides with a special pathological condition of the marrow, which most frequently necessitates the removal of the limb. In regard to the second stage, it is not always possible to discriminate between this and the first, and there consequently exists a favorable chance for resolution without sacrificing the member. M. Larrey does not accept, without reserve, the conclusion of M. Roux, that in the third stage, or that of suppuration, amputation is absolutely necessary, since suppuration of the medullary canal may be cured without necrosis being produced, and even if the bone dies, it may be discharged as a sequestrum, which sometimes represents the whole of the shaft. Should, however, extraction of the dead bone or resection of the articulation be impracticable or insufficient for a cure, secondary amputation will be required.

M. Larrey submitted to the Academy the following modifications, which he desired to make in the conclusions of M. Roux:—

1. Osteomyelitis, after gunshot wounds, is more frequent than it has heretofore been considered; but it is not inevitable, and is most frequently cured.

2. It may be limited to one point of the bone, or even attack the whole more or less quickly.

3. It must be subjected immediately to all the rational modes of treatment, when it is susceptible of frequent and even of spontaneous cure.

4. It sometimes requires secondary resection or amputation, at one time in the continuity of the limb, at another, and occasionally preferably, in the contiguity.

5. It can explain, in certain cases, the want of success of partial operations, or operations practiced on bones attacked by this inflammation.

6. It demonstrates, finally, the fitness as well as the success of disarticulations in many cases; but it cannot justify, at least in our eyes, the proposal, much too exclusive for surgeons, of renouncing articular resection and amputation in the continuity of the limb.

7. The simple proposition brought forward by M. Roux, in spite of his great authority in the practice of the art, in spite of the extreme interest and unexpected novelty of his observations, in spite even of the remarkable success of his exceptional practice, in spite, finally, of the serious attention which his

researches will awaken in every surgeon, this simple proposition will with difficulty become a precept justified by experience and sanctioned by the Academy.

VI.—*On the Treatment of Certain Diseased Conditions of the Hip-Joint by Complete and Partial Excision of the Articulation.* By Mr. PRICE. (Lancet, April 28, 1860.)

Mr. Price read a paper on the above subject before the Medical Society of London, stating the results of a practical and widely extended experience. At the Infirmary for Scrofulous Children, at Margate, there had come under his observation one hundred and fifty-three cases of disease of different joints, seventy-six of which related to the hip. Of these, thirteen were cured with useful limbs; ten died; forty-one were greatly benefited; eight were slightly improved; in two a portion of the diseased joint was resected with much improvement; and in two the result of treatment could not be ascertained. The statistics of excision of the hip-joint are more fully treated of by Mr. Price than by any author with whom we are acquainted, and we find that he has collected sixty-seven cases, in fifty-nine of which he had authenticated particulars. After entering upon the history of the operation, the author discussed the subject in relation to the special condition of disease for which the procedure had been instituted, and divided the consideration of the subject into the following heads:—

1. Where the diseased head of the femur was dislocated from its acetabular connections, and no disease of the pelvis apparently existed. Sixteen cases were reported with this condition, three of which were fatal, one from erysipelas on the fifteenth day, and two from general debility and tuberculosis of the lungs. In ten instances the condition of the patients was greatly improved, and useful limbs resulted from the operation, and three cases were successful as far as the operation was concerned.

2. Where the diseased head of the femur was dislocated from the acetabulum, and more or less disease of the acetabular portion of the pelvis existed. The operation in these cases was resorted to rather as a palliative measure, the disease being too far advanced to hold out much hope of success. Of eighteen instances, only six were positively cured. Of the twelve unsuccessful cases, the direct effects of the operation led to death in only five, one fatal result being owing to erysipelas. The remaining six cases were more or less benefited by the operation for a certain length of time, although death ultimately ensued, either from diseased kidneys, tuberculosis, disease of the heart, or erysipelas.

3. Where the diseased action was more or less confined to the synovial and cartilaginous structures of the articulation, and if the bony portions of the joint were involved, such inclusion was not of the nature of caries and necrosis. Five cases were reported with this condition, of which three were completely cured, two of these having been operated upon by the author. Of the two fatal cases, one died from irritation and debility on the twentieth day; the other lived for fifteen months, and succumbed from other causes than disease of the hip.

4. Where the integrity of the joint was more or less destroyed, either femoral or pelvic, or both, although no dislocation or rupture of the capsular ligament had occurred. When the local parts were thus involved, fourteen cases were

subjected to the operation, with the result of eleven recoveries, with more or less useful limbs, and three deaths, the time varying from three days to three months.

5. Under this head are included those cases, five in number, of which Mr. Price had no exact knowledge. Recovery, however, took place in three, and death in two.

Of these fifty-nine cases, fifty-three of which were operated upon by British surgeons, thirty-three recovered, their general condition being much improved, and with useful limbs. Eleven were so far successful that they lived for periods varying from three months to two years, their general condition, both locally and constitutionally, being greatly benefited. Fourteen cases succumbed from the effects of the operation, and in one Mr. Price was unable to obtain the result.

VII.—*Severe Burn followed by Exfoliation of the whole upper portion of the Skull.* By HARVEY J. PHILIPOT, M.D., M.R.C.S.L. (British-American Journal, May, 1860.)

On the 27th of October, 1857, an Irish woman was seized with a fit and fell into an open wood-fire, inflicting a severe burn upon the neck, face, and scalp, and denuding the upper two-thirds of the frontal and parietal bones, which were charred by the flames. A severe shock to the nervous system was the result, but readily yielded to treatment, and, under the use of a slightly stimulating lotion, a large slough was thrown off in the course of several weeks, leaving a granulating surface on the free margin of the scalp surrounding the exposed bones. When the patient was again seen by Dr. Philipot, ten months after the accident, he found her head bound up with greased rags, and she informed him that while applying the lotion, on the 15th of August, 1858, she felt the bone move, and, by using a little force, she succeeded in removing the top of her head. The bone measured five inches and three-fourths in its longitudinal diameter, and four inches and a half transversely, and its internal table had almost entirely disappeared. The whole superior surface of the cerebrum was exposed, but covered by its membranes, and resembled a large fleshy, pulsating tumor. At the time of reporting the case, nearly two years and a half after the accident, the patient seemed to suffer but little inconvenience from the loss.

VIII.—*On the Treatment of Cystic Goitre.* By PROFESSOR V. BRUNS, of Tübingen. (Deutsche Klinik, und Prager Vierteljahrschrift, 1860, i.)

For the cure of cystic tumors of the thyroid gland, Professor v. Bruns recommends the injection of the sac with from one to two drachms of the undiluted tincture of iodine, introduced through a delicate canula, which closely fits the nozzle of a syringe. The small puncture made by the trocar is closed by adhesive strips and a compress of lint, and the patient is kept at rest in the recumbent posture. On the first or second day after the operation, symptoms of inflammation manifest themselves, and the cyst generally fills up to its former volume. The general health of the patient remains perfectly good, or there is but slight febrile disturbance, which abates in the course of two or three days. After this the cyst gradually grows smaller, and, with one exception, a complete cure without a relapse was the result of this treatment in every case in which it was employed.

IX.—*Cure of a Gastric Fistule by a Plastic Operation.* By PROFESSOR MIDDELDORPF. (Gazette Hebdomadaire, vol. vii., No. 7, 1860.)

The only authentic case of a cure of a gastric fistule by a plastic operation is reported in a memoir, entitled "De Fistulis Ventriculi Externis et Chirurgica Earum Sanatione, Accedente Historia Fistulæ Arte Chirurgorum Plastica Prospere Curatæ," by Professor Middeldorpf, of Breslau, who relates a case of this nature, and gives a complete historical résumé of the subject. The patient was a woman, forty-seven years, of age, and the disease, which dated from her youth, had arisen from a blow on the left hypochondrium. From her twentieth to her thirty-second year, she experienced considerable pain in this region, when a new blow caused a tumor to appear on a level with the costal cartilages, which increased in size for eight years, and resulted in an abscess. This opening, a fistule was the result, for which palliative treatment by means of bandages was first instituted, but not succeeding, a plastic operation was determined upon and performed in 1857. The wound was thoroughly united at the end of the thirteenth day, and remained firm until the sixty-ninth day, when pain set in, and a small opening appeared at the original site of the fistule, which finally became closed under the use of nitrate of silver.

PATHOLOGY AND PRACTICE OF MEDICINE.

BY RICHARD J. DUNGLISON, M.D.,

I.—*Diagnosis and Treatment of Special Forms of Paralysis, with illustrative Cases.*

Several interesting theoretical and practical views in regard to paralytic affections having recently appeared in the journals of this country and Europe, it is deemed expedient to arrange them in a series, in order to furnish a convenient mode of comparison of the peculiarities of each.

1. *Diagnosis and Treatment of the Principal Forms of Paralysis of the Lower Extremities.* By C. E. BROWN-SÉQUARD, M.D., etc. Lecture I. Parts I., II., and III. (London Lancet, April 21, 28, and May 5)

The object of this first lecture of Dr. Brown-Séquard is to establish a clear diagnosis between the different forms of paralysis, and especially of the two most frequent and distinct forms, reflex paraplegia and the paralysis due to myelitis. The great difference in the mode of treatment of these two affections renders a differential diagnosis of the utmost importance. *Reflex paraplegia* is defined as "a paralysis of the lower limbs due to an excitation that has come to the spinal cord from a sensitive nerve; the excitation, after having reached this nervous centre, may be *reflected* on the blood-vessels of this very centre, or on those of the motor nerves or the muscles." Dr. Brown-Séquard advances two propositions: First, that a paralysis of the lower limbs may be caused by an alteration in the periphery or the trunk of the various sensitive nerves; second, that this kind of paralysis differs extremely from the other kinds of paraplegia in many of its symptoms, and in the frequency and rapidity of cure. Many of the characteristics of reflex paralysis are described with a view of showing how distinct it is from cases of paralysis dependent upon an evident organic alteration of the nervous centres, and to confute the arguments of those who deny the existence of such a condition as reflex paraplegia. A long list may be given of cases of paralysis, the production of which cannot be explained otherwise than by a reflex action, such as amaurosis, or paralysis of the optic nerve, due to injury of the frontal nerve, which has been cured rapidly after the section of the nerve between the irritated spot and the nervous centre, so as to abolish reflex action; paralysis of one arm, one hand, the eye, the œsophagus, etc., consequent upon an excitation of a sensitive nerve of animal or organic life; paralysis of the auditory nerve as a consequence of neuralgia, appearing, increasing, diminishing, or disappearing with this outside nervous excitation, etc.

The difference between reflex paraplegia and paraplegia from myelitis is fully illustrated by the lecturer in fifteen of the prominent symptoms of paraplegia from diseases of the urinary organs and paraplegia from myelitis, deduced from cases detailed by Messrs. Stanly, Rayer, and others. The treatment of reflex paraplegia must aim at the cure of the disease which has caused the irritation, as in those cases which are dependent upon diphtheria, or enteritis, or neuralgia, or disease of the knee-joint, or nephritis. Illustrations of each form are detailed by Dr. Brown-Séquard, in which there existed no reason for believing that the affection had its origin primarily in any disease of the spine or its contents. Suppress the external cause of irritation, and the reflex paraplegia will often be cured, while all treatment directed merely to the relief of the paralysis, without considering its reflected character, will fail. Many, however, doubt the necessity of admitting this view of the existence of reflex paraplegia from external irritation; in cases of disease of the kidney, for example, paraplegia may be due to uræmic poisoning; in diphtheria or disease of the lungs, to an alteration in the blood, caused by the disturbance of digestion or respiration; in disease of the uterus by that organ pressing upon the obturator nerve and the sacral plexus, etc. But Dr. Brown-Séquard examines into all these difficulties, individually. Uræmic poisoning does not, for instance, manifest itself only by a paralysis, but excites other very striking symptoms, which were absent entirely in these cases; the alteration of the blood cannot account for diphtheritic paralysis, for it is impossible to suppose that a complete paraplegia, without any diminution of voluntary movement elsewhere, can be due to a cause, which, as it is supposed to be in the blood, is circulating everywhere in the body; nor can pressure of the uterus upon the nerves of the lower limbs be the cause of the paralysis, unless the organ has undergone great enlargement. He thinks it is conclusively proven that the period of appearance, the variations of intensity, the progress and the cure of paraplegia, are in perfect correspondence with the view that the paralysis depends upon an irritation from a sensitive nerve.

The remainder of this lecture is occupied in the discussion of the two interesting topics of reflex contraction of vessels, and the morbid reflex action on nutrition, and in the consideration of the treatment of reflex paraplegia. Being accompanied and most likely produced by an insufficient amount of blood in the spinal cord, it ought not to be treated by those remedies which diminish the quantity of this fluid in the spinal nervous centre. How often, however, is mercury, which acts in this way, employed in that affection! On the other hand, myelitis, which is accompanied by an increase in the quantity of blood in the spinal cord, is often treated by the very remedy (strychnine) which has the most powerful influence in increasing the amount of blood in the spinal cord! How important, therefore, is it to know exactly to which group of affections (as to the quantity of blood in the spinal cord) belongs a paraplegia, before we give a remedy included in either of the two categories above mentioned!

2. *Paralysis Consequent upon the Poison of Diphtheria.* By JAMES B. REYNOLDS, M.D., etc. (N. Y. Journal of Medicine, May, 1860.)

Diphtheritic paralysis has not been recognized or well described as a distinct disease consequent upon the poison of diphtheria until of late years; and many cases which were mentioned during the last century as curious deviations from special forms of sore-throat, may be considered as those which would now form illustrations of diphtheritic paralysis. It always begins in the soft palate; and, if the eyes are affected, amaurosis occurs, followed perhaps by deafness; then the lower limbs, the upper extremities, the muscles of the alimentary canal and bladder, etc., become affected; paralysis being sometimes confined to loss of motion, or the nerves of sensation merely. The invasion of these different parts comes on slowly and gradually, and in most of the cases every trace of the primary affection has disappeared. The various forms of paralysis, and especially the affections of the throat and eyes, are fully described by Dr. Reynolds. In one case total blindness existed for three months, but the patient recovered without any indistinctness of vision; yet in a large number of these amaurotic cases, no lesion could be detected by the ophthalmoscope. Disturbance of the organ of hearing is rare, paralysis being often, indeed, extended no further than to impairment of the functions of the palate and organs of vision. There may be merely muscular feebleness of the extremities, or total paralysis may exist. When the muscles of the face are involved, as sometimes, though rarely, happens, the expression of the countenance becomes altered, often assuming a hideous appearance from the unequal want of power in the two sides of the face. In these severe cases, obstinate constipation occurs from the paralysis of the muscular coat of the intestines; in one case no action of the bowels could be effected within twenty-three days. The muscular fibres of the heart are very rarely attacked. A very slight primary affection may be followed by most serious sequelæ.

The symptoms thus detailed are those involving the motor system, but some of the very earliest phenomena are connected with more or less modification of the sensory system. Anæsthesia of one leg sometimes occurs, with hyperæsthesia of the other; and it occasionally happens that where the paralysis of motion is nearly or quite the same in both legs, sensation may be altered in but one. The mind is but rarely affected. Cases of diphtheritic paralysis are often confounded with the results of hysteria or general progressive paralysis, with idiocy, etc. The prognosis is favorable; only nine of the seventy-seven cases referred to by Dr. Reynolds died. Death resulted from convulsions, starvation, syncope, and from the passage of masses of meat into the trachea, etc. The main cause assigned by Bretonneau for the production of the paralysis is the extension of the false membrane up through the nasal fossæ; but this view is regarded as untenable. M. Trousseau has abandoned his former opinion, that loss of power was dependent on inflammation of the coats of the nerves, and on infiltration producing pressure on their motor muscles, and now believes it to be the direct consequence of the diphtheritic poison acting generally on the system and strangely modifying the blood; a view which has been already touched upon in the abstract of Dr. Brown-Séquard's lecture. The treatment is such as would readily suggest itself to the therapeutist, embracing as it does the use of tonics, friction, and special nervous stimulants.

3. *Paralysis of Motor Power in one Leg, and of Sensibility in the other.* By SAMUEL CHEW, M.D., etc. (Maryland and Virginia Medical Journal, April, 1860.)

A case admitted into the Baltimore Infirmary presented impairment of sensibility alone in one leg, and of the power of motion alone in the other. Such cases are probably rare. Dr. Chew explains them according to the results of the experiments and researches of Dr. Brown-Séquard, and considers that they probably arise from injury inflicted upon some portion of one lateral half of the spinal cord, as by the pressure of a tumor, by congestion or effusion of blood, or by the changes caused by inflammation. Injury of either lateral half of the cord occasions, in all cases, complete paralysis of *motor power* in the *corresponding* side of the body below the point of injury; but Dr. Brown-Séquard has discovered, also, that such an injury occasions equally complete paralysis of *sensibility* in the *opposite* side. Such a case as that detailed by Dr. Chew occurs but rarely, because almost all the accidents that can befall the cord are, from their nature, far more apt to affect both its lateral halves than either of them alone.

4. *Paralysis of the Right Side, and very rapid Recovery.* By C. J. B. ALDIS, M.D. (Medical Times and Gazette, March 31, 1860.)

Dr. Aldis was called, in February last, to see a lady of sixty-nine, in consequence of her having become speechless. She was conscious, but had flapping of the buccinator muscle and hemiplegia of the right side; the tongue, when protruded, inclining to the paralyzed side. The right arm and leg dropped like a stone, after being raised. While a mustard-poultice was being prepared, she was noticed to point to the toes of the right foot, and it was observed that strength was gradually returning to the leg and other parts of the affected side, so that in twenty minutes the paralysis had entirely ceased. Altogether not more than thirty-five minutes had elapsed between the commencement of the attack and its spontaneous cure. She had been subject to intermittent pulse for several years, but there was no organic disease of the heart. The prognosis in a case in which the symptoms indicated an affection of the fifth and ninth nerves, with loss of power over the whole of the right side, could not, in ninety-nine cases out of a hundred, be favorable; and some lesion of the brain, either by softening or effusion, connected with diseased arteries, might naturally have been suspected.

It is probable, however, as Dr. Aldis thinks, that venous congestion of the brain, caused in a great measure by the loaded state of the bowels, with a weak heart, excited the symptoms, which, fortunately, were only transient. [Two similar cases are described by Mr. Ewens, in *Med. Times and Gaz.*, April 14, 1860; one of which terminated fatally during a second attack, the other recovered.]

II.—*On the Atheromatous Expression.* By GEORGE D. GIBB, M.D. (London Lancet, May 12, 1860, p. 463.)

We have here a record of the observations of one who acknowledges that his attention for a number of years has been directed to the inquiry whether those with whom he was brought in contact in the daily routine of practice, or in the course of his daily perambulations, were characterized by an "atheromatous expression." There is a large number of persons who enjoy, apparently, a fair share of health, and whose appearance to many is that of extremely good health, but who, to an acute observer, have a peculiar expression of countenance, induced, as Dr. Gibb thinks, by changes in the system at large from the influence of fat and its numerous compounds, the invariable result of saccharine conversion in the economy. The pathological phenomena associated with such an alteration of the countenance are mainly due to changes in the blood, leading to the deposition of atheromatous matter in the coats of the blood-vessels. Life becomes jeopardized by the risk of cerebral hemorrhage or intense congestion, by fatal cardiac syncope, or by aneurismal disease in distant parts. The condition of the vessels is never the result of inflammatory action, but is unquestionably due to simple metamorphosis, through the agency of the blood. The characteristic features of the "atheromatous expression," described by Dr. Gibb, are a peculiar greasy appearance of the face, especially about the prominent part of the cheeks and end of the nose; the lips are full, the ala of each nostril is smooth and rounded, and the subcutaneous areolar tissue, being abundantly supplied with adipose matter, gives plumpness and development to the countenance. The skin may be reddish or pinkish, with the small vessels on its surface injected here and there with blood of a bright-red color, sometimes having an irregularly streaked appearance. The eyes have a fatty lustre, and sometimes a simple arcus adiposus or arcus senilis exists, or occasionally a complete annulus of the same kind.

The expression is by no means one of discontent or ill health, and may be seen in those in the prime of life as well as in those of advanced age. "As a rule," says the writer, "which I have worked out by watching a large number of persons thus featured, life is extremely uncertain, and sooner or later becomes the forfeit, to the astonishment of their friends, who had hitherto looked upon them as models of health from their complexion and general appearance. Persons thus featured, may, however, with quiet, care, moderation in living, the avoidance of excitement, etc., go on smoothly and comfortably to a ripe old age." The *calcareo-atheromatous expression*, a modification of the other, is accompanied with an excessive degree of pallor, depending upon the extensive deposition of calcareous or earthy matter in the distal blood-vessels, that is, in the major vessels of the extremities, which become hard cylinders. A distinct bluish-white ring, in these cases, surrounds the entire margins of the cornea. Dr. Gibb describes one case in which the *calcareous expression* alone existed, with an entire absence of atheroma. The heart and all the blood-vessels are not extensively diseased in these affections simultaneously; in the case just cited, for example, the heart not being perhaps involved beyond calcification (not atheromatous degeneration) of the coronary arteries. It is observed that while the body becomes in the condition of advanced senility, the intellectual vigor remains perfect. The subject is one open to further investigations, and worthy of more extended observation.

III.—*Importance of the Functions of the Skin in the Pathology and Treatment of Tubercular Consumption.* By Dr. TOULMIN, of St. Leonard's. (Medical Times and Gazette, April 14, 1860, p. 382.)

The proximate cause of tubercle, is, in all cases, according to Dr. Toulmin, the breathing of impure air, and air in so small a quantity as to render it impure, especially during the night. The rich being subject to phthisis as well as the poor, he drew the attention of the Harveian Society to the importance of the respiratory functions of the skin, as proved by the fact that death resulted from closing the cutaneous pores artificially by varnishing the skin of rabbits and other animals, and suggested that from the coldness of climate and other reasons the better classes of society did not daily wash the whole surface of their bodies, and that the débris of the cuticle and the exuvia momentarily forming on the skin rendered the surface impervious to air. In this mode the same imperfect oxygenation of the blood ensues as is produced in the poorer classes by breathing mephitic air. For the removal of this state of skin, the only means of cure is free diaphoresis by artificial heat, which softens and expels large quantities of sebaceous matter, after the surface has been washed clean with soap and water. Novel doctrines as to the nature and treatment of phthisis were enunciated; the treatment being considered under its hygienic and medical aspects; under the former, the patient was recommended to live in a high, dry, and marine atmosphere on the downs rather than under them; and to be in the open air, devoting himself to suitable athletic exercises. Medically, the treatment was mainly the use of the hot-air bath, the daily anointing of the whole surface with oleaginous matter, the keeping up open counter-irritation by setons or issues, and the use of tonics—each means of medication admirable in itself, but inefficacious if the hot-air bath, followed by aspersion of cold or tepid water, should be omitted.

IV.—*On Contraction and Obliteration of the Aorta near the Junction of the Ductus Arteriosus.* By THOMAS B. PEACOCK, M.D., F.R.C.P., etc. (Brit. and For. Med.-Chir. Review, April, 1860, p. 467.)

All the important facts connected with the pathology of the cases embraced in Dr. Peacock's comprehensive paper are considered in Dr. Packard's analysis, under the department of "Pathological Anatomy." Other facts of historical interest attach to each case, which may be more appropriately arranged in the department of "Practice of Medicine." We have carefully collected these in a table, giving the "local habitation" of each case, and the sources of our information. We thus supply what we believe to be a useful supplementary index of reference to the contents of Dr. Peacock's paper.

HISTORICAL SKETCH OF ALL THE RECORDED CASES OF OBSTRUCTION

	Date.	Sex.	Age.	Where occurred.	Described by whom.
1	1791	Female	50 years	Paris	M. Desault
2	1814	Male	14 “	Glasgow	Dr. Graham
3	1818	Male	57 “	London (probably)	Sir Astley Cooper and Mr. Travers
4	1820	Female	17 “	Berlin (probably)	Dr. A. W. Otto
5	1827	Male	35 “	Germany	M. Albert Meckel
6	1828	Male	92 “	France	M. Reynaud
7	1828	Male	40 “	Caen	M. Pellétier
8	1831	Male	21 “	Manchester	Mr. Jordan
9	1834	Male	27 “	Dublin	Mr. Nixon
10	1834	Male	48 “	Paris	M. Le Grand
11	1839	Male	38 “	Paris	M. Mercier
12	1839	Male	50 “	Austria	M. Roemer
13	1835–42	Unknown	Unknown	Unknown	M. Cruveilhier
14	1840	Male	Unknown	Ireland	Dr. Houston
15	1841	Female	7 years	Edinburgh	Dr. Craigie
16	1842	Female	19 “	Birmingham	Dr. Fletcher
17	1842	Male	Middle aged	Calcutta	Dr. Wise
18	1842	Male	69 years	Germany	M. Tiedemann
19	1844	Male	42 “	Prague	M. Hamernjk
20	1845	Male	Unknown	England	Dr. Chevers
21	1845	Male	22 days	Prague	Dr. Bochdalek
22	1845	Female	4 years	Prague	Dr. Bochdalek
23	1847	Male	25 “	London	Mr. Muriel
24	1848	Female	20 “	London	Dr. Blakiston
25	1848	Male	48 “	London	Dr. Blakiston
26	1848	Male	25 “	Prague	M. Hamernjk
27	1849	Male	14 “	Utrecht	Dr. Van Leeuwen
28	1852	Male	22 “	Paris	M. Lébert
29	1852	Male	32 “	Paris	M. Lébert
30	1852	Male	27 “	Unknown	M. Rokitansky
31	1852	Male	29 “	Vienna	M. Löbl
32	1852	Male	57 “	Unknown	M. Rokitansky
33	1853	Male	45 “	London	Mr. Sydney Jones
34	1853	Female	56 “	Stuttgart	Dr. A. Härlin
35	1856	Female	39 “	Paris	M. Dumonpallier
36	1857	Female	37 “	Rouen	M. Leudet
37	1858	Male	22 “	London	Dr. Wilks
38	1858	Male	Unknown	London	Mr. John Wood
39	1860	Female	28 years	Sweden	Hr. Kjellberg
40	1860	Male	24 “	London	Not yet described

OF THE AORTA NEAR THE JUNCTION OF THE DUCTUS ARTERIOSUS.

Authorities.	Remarks.
Journal de Chirurgie, tome ii. p. 107, Paris, 1791.	Discovered by M. Paris in a body injected for dissection.
Medico-Chirurgical Transactions, vol. v. p. 287, 1814.	Described also by Mr. H. Rainey in the Journal of Corvisart.
Surgical Essays, by A. Cooper and B. Travers, part i. p. 103; 1818.	Occurred in the practice of Mr. Winston.
Neue seltene Beobachtungen, p. 66; Berlin, 1824.	
Meckel's Archiv für Anatomie und Physiologie, p. 345, 1827; Tiedemann, von der Verengung, etc. der Pulsadern, p. 15.	Post-mortem examination performed by M. Herman.
Journal Hebd. de Méd., tome i.	Cases 1, 2, and 3 are also referred to by M. Reynaud.
Archives Générales de Méd., tome xviii. (16me année,) p. 205, 1828.	Occurred in the practice of M. Trouvé.
North of England Medical and Surgical Journal, from Aug., 1830, to May, 1831, vol. i. p. 101.	
Dublin Jour. of Med. Science, vol. v. p. 386, 1834.	Cases 1, 2, 3, 6, and 8 are also referred to by Mr. Nixon.
Du Rétrécissement de l'Aorte, etc., Paris, 1834; noticed in Gaz. Méd. de Paris, 1834, and Arch. Gén. de Méd., deuxième série, tome viii. p. 528, 1835.	Patient first seen by M. Le Grand and M. Kapeler. Post-mortem examination by M. Amussat. Five of the preceding cases also referred to by M. Le Grand.
Bulletin de la Soc. Anat., 14me année, p. 158, 1839.	
Med. Jahrb. des Oesterreich. St., 1839; and Tiedemann, op. cit., obs. 1.	Case previously under the care of M. Eichler.
Pathological Anat., liv. xl. pl. 3, fig. 3.	
Catalogue of the Pathological Museum of the Royal College of Surgeons of Ireland, B. c. 183.	Case previously under care of Dr. Hargraves.
Edinburgh Med. and Surgical Jour., vol. lvi. p. 427, 1841.	Cases 1, 2, 3, 4, 5, 6, 8, 9, and 10 are also quoted in this Memoir.
Medico-Chirurgical Transactions, vol. xxv. p. 282, 1842.	
Transactions of the Medical and Physical Society of Calcutta, vol. viii. p. 384, 1842.	
Opus citatum, Beobachtungen, ix. p. 15.	Cases 1 to 17 inclusive are also referred to by M. Tiedemann.
Prager Vierteljahrschrift, p. 41, 1844.	
London Medical Gazette, vol. xxxvi. (new series, vol. i.) p. 187, 1845.	The preparation is in Guy's Hospital Museum.
Vierteljahrschrift, p. 160, 1845.	
" " "	
Guy's Hospital Reports for 1847, (p. 453.)	
Practical Observations on Certain Diseases of the Chest, p. 98, 1848; case xxix. p. 134.	
Ibid., case xxx. p. 135.	
Vierteljahrschrift, p. 40, 1848.	Occurred in the clinique of Prof. Oppolzer, of Prague, and was correctly diagnosticated by him during life.
Nederlandsch Lancet, 2d series, 5th year, No. 2.	Diagnosticated by Dr. Van Leeuwan during life. Cases 11, 19, and 26 are also referred to.
Archiv, etc., von Virchow und Reinhardt, s. 327, Berlin, 1852.	Occurred in the practice of M. Louis.
Do. do. do. do. do.	Occurred in the practice of M. Barth.
Pathological Anatomy, Lond. Edit., 1852.	Occurred in the practice of M. Dlauhy.
Rokitansky, Ueber einige der wichtigsten Krankheiten der Arterien, Obs. 20, tab. xiv. B.	Occurred in Prof. Skoda's wards, in Vienna Hospital, and is detailed in Rokitansky's monograph "On Some of the More Important Diseases of the Arteries."
Ibid., Obs. 21, tab. xv.	Described in Rokitansky's monograph.
Path. Trans., vol. viii., 1856–7, p. 159.	The preparation is retained in the Museum of St. Thomas's Hospital.
Archiv, etc., von Virchow, p. 273, Berlin, 1853.	
Comptes Rendus des Séances et Mémoires, tome iii. deuxième série, année 1856, p. 273, Paris, 1857; and Gaz. Méd. de Paris, 27ème année, 3ème serie, tome xii. pp. 52, 188, 295.	Occurred in the practice of M. Voillemier, at Hôpital Lariboîssière. Many of the preceding cases are also analyzed in this as well as the next report.
Ibid., tome iv. 2ème série, année 1857, p. 63, Paris, 1858; Gaz. Méd. de Paris, 28ème, année 1858, p. 44.	Occurred in M. Leudet's practice at the Hôtel-Dieu of Rouen.
Trans. of Path. Soc. of London, vol. x., 1858–9, p. 77.	A patient of Dr. Rees in Guy's Hospital.
" " " " " p. 97.	
Hygeia, Medicinsk och Farmaceutisk Mundschrift, vol. xxi. No. 6, p. 376.	
Brit. and For. Med.-Chir. Rev., April, 1860, p. 480.	A patient of Dr. Barker at St. Thomas's Hosp.

V.—*Unsuccessful Attempts to produce Variola in the Cow by inoculating with the Virus of True Variola; Perfect Success on using the ordinary Vaccine Virus.* By Ephraim Cutter, M.D., Woburn, Mass. (Boston Med. and Surg. Journal, March 15, 1860.)

A series of experiments upon fifty cows was instituted by Dr. Cutter to test whether, as cow-pox is commonly thought to be small-pox modified and mitigated by a transmission through the system of the cow, it is possible to procure pure primary vaccine virus by simply introducing into the system of the cow the virus of variola from the human subject. Three modes of introducing the variolous matter into cows were used—(*inoculation*):—

1. By quill and puncture with lancets.
2. By rubbing the charged points of quills upon crucial abrasions of the hairless cutis.
3. By introducing, in the form of setons, threads charged with the variolous virus; this being the easiest method.

The experiments were wholly unsuccessful. *Vaccination* on the cow was practiced in the following modes:—

1. By the seton; this was tried twice, but unsuccessfully.
2. By quills; these, if fresh, generally succeeded.
3. By pricking into crucial abrasions of the cuticle, with a lancet, portions of a scab dissolved in water to a pasty consistence. This plan was uniformly successful.

Any one can procure a vaccine pustule on the cow by vaccination, as easily as it can be procured upon the human subject; but Dr. Cutter thinks the virus thus obtained is no better than the ordinary virus in use. Some of the secondary vaccinations with virus from the cow procured pustules normal in appearance, and of a large size, despite a good scar of the primary vaccination; and constitutional symptoms were produced in some cases. Equally good pustules and similar constitutional effects were produced also by the ordinary virus in use. The object of Dr. Cutter's paper is to show that vaccinia is not varioloid, or cow-pox modified small-pox. This, he thinks, is proved by the unsuccessful attempts to produce a normal vaccine pustule by inoculation, while upon the very same animals, by vaccination with the virus in ordinary use, the normal vaccine vesicle has been got easily. Von Bibra states distinctly that the cow-pox and the small-pox are two different diseases; and the asserted fact that persons who have had the small-pox have been successfully vaccinated, seems to substantiate the position assumed by Dr. Cutter.

VI.—*On a form of Hypochondriacal Delirium occurring consecutive to Dyspepsia, and characterized by Refusal of Food.* By Dr. L. V. Marcé. (Annales Médico-Psychologiques, January, 1860, in the Journal of Psychol. Med., April, 1860.)

Peculiar mental conditions sometimes accompany dyspepsia, and convert the gastric nervous disorder into what Dr. Marcé calls a cerebro-nervous condition. Loss of appetite or the uneasiness caused by digestion may induce in those who are predisposed to insanity from hereditary antecedents, or those who are very impressible by nervous disturbances, a delirious conviction that they cannot or ought not to eat. Under this condition the stomach contents itself with the feeblest nourishment; in one case the daily amount of solid and liquid food taken did not exceed by actual weight 50 grammes. It is true that all the symptoms preceding death from inanition are very strikingly manifested; but as the debility increases, the intellectual energy seems to centre around the functions of the stomach, and the unhappy sufferer becomes incapable of sustaining the least conversation beyond his delirious ideas, regaining a certain amount of energy in order to resist all attempts at alimentation. The physician is at first deceived as to the nature of the affection, and attempts to stimulate the activity of the digestive functions. But when the disease is advanced, it is no longer the stomach that demands attention, for that organ may have perfect digestive powers, which cannot, however, be exercised in the absence of food; it is the delirious idea which constitutes the essence of the malady. The patients are no longer dyspeptics; they are insane. Removal from their habitual domestic circle; intimidation, and even force; the use of the œsophagus sound, and the gradual increase by weight of the daily allowance of food, are the means of treatment suggested by Dr. Marcé, assisted by the employment of bitters, tonics, and a watchful attention to any tendency to relapse.

OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN.

BY WM. B. ATKINSON, M.D.,

LECTURER ON OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN.

I.—*Alum in the Treatment of Uterine Hemorrhage.* By R. BEVERLEY COLE, M.D., San Francisco.

The double salt, the sulphate of alumina and potassa, has long been known as a powerful styptic. It has, in cases of hemorrhage, generally been employed in the form of powder taken by the stomach, or injection into the vagina. The writer asserts, in the most positive terms, that a crystal of alum of the size of a hen's egg, when introduced into the vagina, and carried to the os uteri, if retained, will *always* arrest the most obstinate hemorrhage. This assertion is made after six years experience in its use. Such is his confidence in this agent, that he never repairs to the bedside of a patient suffering from uterine hemorrhage, without first providing himself with a lump of alum, feeling every assurance that this, and no other remedy, will be required to arrest the flow. In employing this substance, it is important to select a firm crystal, which should be of such dimensions as, when introduced, to fill the vagina, and should be rendered smooth upon the surface by depriving it of its angles, and washing in water; in order to facilitate its removal, it may be perforated, and a string passed through the opening, by which it may be withdrawn. The length of time that it should be retained will depend upon circumstances, varying from thirty minutes to twenty-four hours.—(*San Francisco Med. Press*, January, 1860.)

II.—*Morning Sickness: its Significance as a Symptom.* By Thomas Inman, M.D., Liverpool.

Few, if any, understand the significance of this symptom, though all are familiar with its occurrence. A host of questions may be asked concerning it. Why are pregnant women sick? Why in the morning? Why in the early months more than the later? Why does not this phenomenon attend a distended bladder, or any other cause of enlargement of the abdomen, as frequently as it attends pregnancy? Does it occur in other complaints, and what have these in common with pregnancy? What is the proximate cause—is it to be sought in the stomach itself, the brain, the uterus, or all combined?

All pregnant women do not have it; some have it at one time, and not at another; it is rare among women in the country; and even among those who go from town, it is often found to cease, only to recur on returning to town. It is clear, then, that women are not sick because they are pregnant; something additional is required to produce the vomiting.

It is most common in the morning, yet it is not generally present so long as the recumbent position is maintained. As the brain is the organ most affected by change of posture, our attention is directed to that. Many cases are seen where vomiting occurs by assuming the erect position, and it is also a common sign of "water in the head." Few cases of this kind, however, have morning sickness; hence, a change in the cerebral circulation alone will not be sufficient to account for it.

We will next attempt to ascertain its causes by examining under what circumstances it occurs in males, children, and elderly people. In several cases of men suffering under this symptom, it was the result of dyspepsia. In children, it is found as a tolerably sure indication of deficiency of digestive power in the stomach and body generally. When we inquire how much the condition of the uterus influences the vomiting, we find that it is not produced solely by enlargement of that organ, for it is not common when the womb is distended by an accumulation in consequence of an unruptured hymen; nor is it from pressure in the pelvis, either direct or indirect, for it is generally absent in ovarian dropsy; nor is it a common sign in cases of uterine tumors, etc.

From all these considerations, we may infer that "uterine sympathy" does not hold so prominent a place as the formation of a new being. Nor can we assign to either the most important rank, as neither produces this phenomenon, unless other conditions are present.

As the symptom does not occur in perfectly healthy and strong women, we infer that its occurrence depends upon some deterioration of vital power, and as this involves more or less deterioration in all the organs, we infer that in such cases there is deficiency of vital power in the brain and stomach.

If this be true, the best remedies will be those which improve the general condition of the patient, which improve the steadiness of cerebral circulation, the tone of the stomach, and which deaden the sensibility of the organ which has been preternaturally increased by debility. If change of air cannot be adopted, then "diminish the daily work as far as possible, and increase the power to do it."

A case is related in illustration of this view, where a *man* had morning sickness for nine months every morning, about five minutes after rising. Regarding him as suffering from debility and overwork, he was ordered a glass of milk with some rum in it, to be taken before rising. Tincture of iron, and cod-liver oil were given through the day, with a nourishing diet and rest. The treatment was highly successful, and, after some four weeks, not having had any attacks of his old trouble, he one day worked too hard, and the next morning the sickness came on, and was again speedily relieved by the same treatment.

A similar plan must be adopted for pregnant women. They should take some food before rising, and allow sufficient time for this to have its influence. Perhaps milk combined with a stimulant is preferable; or hot coffee, cocoa, or tea. Where the sickness is very distressing, champagne or sparkling gooseberry wine answer well. Throughout the day, everything in the way of work must be carefully noted, in order that the patient may not overtask her powers. In bad cases, rest in bed may become necessary for a time.

Tonics, as steel, quinia, etc., are useful; opium, from its influence on the stomach and brain, is specially advantageous.

The preceding observations go far to explain those curious cases occasionally seen, where husbands suffer from this symptom as well as their wives; their sympathy being excited, soon produces faintness and sickness of the stomach. Such an explanation, however, will not apply to a case where a lady patient seriously asserted that in two out of four pregnancies, she was first made aware of her condition by the morning sickness of her husband. (*Brit. Med. Jour.*, March 24, 1860.)

III.—*Occlusion of the Os Uteri during Labor.* By J. C. METCALFE, M.D., Louisville, Ky.

The first case was aged thirty, well formed and healthy. She had complained for several days of irregular pains, and thought she had gone nearly three weeks over her time. An examination failed to detect any os, though it was evident an opening existed, as the liquor amnii was discharged. At a point corresponding to the left acetabulum there was a rugous feeling communicated to the touch, as if the uterus and vagina were irregularly attached; and the finger firmly pressed on this point caused considerable pain. The head of the fœtus could be felt through the walls of the uterus. About two years previous she was confined with her first child. The labor was tedious, a breech presentation, the head remaining in the pelvis from seven in the evening till five next morning, when it was extracted by a cotton hook inserted into the mouth, and traction by the feet. She was confined to bed about six weeks; very little pain, lochial discharge very offensive and profuse, and producing great prostration. The menses returned in about six months, and remained regular up to the time of conception.

As there was nothing in the case requiring immediate action, it was deemed best to wait. The next evening her condition was good; there was no change in the condition of the parts.

A speculum was now introduced, the parts were cleansed, and there was discovered, on close examination, among the rugæ, a small ulcer about the size of a three-cent piece, of an ashy color, which bled slightly at the touch. A probe passed readily through it into the cavity of the uterus, and was immediately followed by a discharge of matter resembling that from the small intestine, inodorous, mixed with what appeared to be healthy pus, with liquor amnii.

An artificial opening was made at the most dependent part, sufficient to admit two fingers. She was then replaced in bed, in the hope that active labor would come on. By next morning, being very weak, Dr. H. Miller was called in consultation. By his advice, the opening was much increased, and so profuse was the hemorrhage that the tampon became requisite. In spite, however, of this and the application of cold, etc., the discharge continued, and death ensued in about seven hours after the incisions were made. The autopsy disclosed the inferior half of the uterus filled with coagulæ surrounding the child. The pelvis was well formed, and of ordinary capacity. The incised parts were found to be nearly as thick as the body of the uterus. On the inner surface, corresponding to the rugæ on the vagina, was a firm ridge resembling a cicatrix.

The second case was aged forty-two, the mother of eight living children. Shortly after her eighth accouchment, she began to suffer from uterine disease, for which a caustic solution was applied. Under this treatment, she became much better. She was soon attacked with uterine hemorrhage, and passed a decomposed ovum. The discharge was very offensive, and was afterwards followed by a leucorrhœa, with much uterine suffering. About nine months after, Dr. Miller was summoned to attend her, for an attack of inflammation of the uterus, with fever of an intermittent type. She was now six months pregnant. Opium, quinia, and poultices were employed, but the pain continuing as if she were about to miscarry, Dr. M. was consulted. An examination was made, but no os could be found. About half an inch to the right of the axis of the pelvis, there was a transverse depression in the uterus about three-eighths of an inch long; below this was a slight oblong protuberance, resembling the inferior lip of the os uteri. No opening could be found. Two days after, as she was evidently sinking, in consultation with Dr. Miller, a transverse incision was made, from a very small opening at the depressed point. Through this enlargement, the fœtal head was felt. But little blood was lost. In the evening, she was restless, feverish, much prostrated. The pain less frequent, but of a more expulsive character; the head of the fœtus is firmly pressed against the opening and partially engages in it during the pain. In order to remove the fetid sanguineo-purulent discharge, the uterus was washed out with tepid water, and a stream of warm water played against the os, so as to relax it and increase the pain. This produced vertigo, and she sank into a state of stupor. Stimulants were given; and, lest death should ensue if she were not speedily delivered, a small pair of calculus forceps were introduced, and the delivery soon accomplished. Though exhaustion had come on, by the free exhibition of stimulants and heat, reaction was produced, and she made a good recovery.

Professor Henry Miller also related two cases, both of which were readily delivered after a similar operation to those above related, and soon recovered. Dr. Metcalfe thinks these cases were the result of some powerfully irritant action upon the parts, producing granulation, and subsequently a firm cicatrix. They should lead physicians to observe more care in the use of caustics, and other remedies which are calculated to produce occlusion of the os, and thus require the employment of the knife, perhaps to be followed by the death of the unfortunate patient.—(*Louisville Med. Jour.*, March, 1860.)

IV.—*Gangrene of the Uterus and Placenta, together with Intense Inflammation of the Peritoneum and half the Surface of the Child.* By G. W. PHILLIPS, M.D., St. Louis.

January 27, 1859, at 12 M., saw Mrs. H., who had had slight labor-pains for four hours previous to my seeing her. The membranes were protruding through the os, and very intense. The patient had a constant retching, and complained of great soreness over the whole abdomen. After three hours had passed, without any change in the symptoms, the membranes were ruptured, and a large quantity of water discharged. On introducing the whole hand, the ear of the child was detected just above the pelvic brim, the head lying crossways, the occiput to the right ilium, the head and neck doubled up on the shoulder. After vainly endeavoring to rectify the position, a small quantity of ergot was given without effect. The soreness of the abdomen rapidly increased, and, to check the inflammatory symptoms, she was bled sixteen ounces, and had one-third of a grain of morphia. This eased her, but the vomiting continued. No progress was made in the delivery, the pain was renewed, and death took place at 4 P.M. On making a post-mortem, the child was found in the position above mentioned, the whole of the placenta, and a great part of the uterus being in a state of mortification. The peritoneum was intensely inflamed, as also one-half of the child's body.—(*St. Louis Med. and Surg. Jour.*, May, 1860.)

V.—*Rupture of the Uterus, and Ventral Hernia during Pregnancy.*
By M. BOURGEOIS, Paris.

A woman whose inlet of the pelvis measured only two inches and a half, and who had the Cæsarean operation performed, became pregnant one year afterwards. At the fourth month she had severe abdominal pain and vomiting. On the next day she noticed a peculiar tumor at the lower portion of the abdomen, and in the median line. The pain and vomiting continued for a week, with occasional intermissions. On examination, M. Bourgeois found a globular tumor projecting immediately under the skin of the abdomen, of the size of the head of a full-grown fœtus. When the patient stood upright, the tumor fell forward over the pubis like a sac, and was herniated between the muscles of the abdomen. When she lay down, the mass could be returned under the muscles. By the hand being placed on the attenuated skin, the prominent parts of a fœtus could be made out; the feet could be seized one after the other, and followed up to the knees, and it was easily felt that the fœtus was separated from the skin only by the resisting and globular uterus. The child did not evince any life when tried by auscultation. M. Bourgeois considered that the fœtus had left the uterus, and that hernia of the linea alba existed. A belt was ordered, to keep up the mass; and the patient soon improved by keeping her bed, and using a very simple line of treatment. Six weeks afterwards labor-pains came on, and uterine hemorrhage took place, fetid clots being expelled;

severe peritonitis set in, which was allayed by belladonna and calomel. The hemorrhage continued, and the discharge from the vulva was observed up to the seventh month of gestation, when it was very abundant, but the patient free from pain. The abdomen became smaller, and the ventral hernia less marked. At the eighth month the fetid discharge was very slight.

At this period a committee was appointed by the Surgical Society of Paris to examine the patient, and decide as to the treatment to be adopted. They considered that no active intervention should be resorted to, and that the fœtus probably retained a certain amount of connection with the uterus. The termination has not yet been published.—(*Lancet*, March 31, 1860.)

VI.—*Displacements of the Uterus.* By E. R. PEASLEE, M.D., New York.

The general indications are to replace the uterus, and to maintain it in its normal position by such aids as may be either temporarily or permanently required.

The first is accomplished by manipulations alone, or with instruments; the second by various means, the most prominent of which are astringents and mechanical support. Of astringents, the tanic acid, alum, sulphate of zinc, etc. are used. Some writers regard these as injurious, and they will do harm if injudiciously employed. Dr. Hamilton thinks that most of the cases of chronic enlargement of the uterus seen by him were produced by the employment of injections.

They will often be found of advantage, if used in accordance with the following rules:—

Withhold them entirely if there is any inflammation, or even much congestion of the vagina or uterus.

Use them of a very weak strength at first.

In case of a profuse discharge, never check it suddenly by their use.

Discontinue the application if any bad effects ensue from it.

Used with these precautions, astringent vaginal applications are valuable aids in the treatment of displacements, as well as other diseases of the uterus.

Mechanical supports are either internal or external. The latter only can be useful to support the walls of the abdomen in cases of relaxation, and may even be an exciting cause of displacement; hence they should be employed with extreme caution.

The internal supports are generally known as "pessaries." Thus, we have a ball of lint soaked in an astringent solution, or a muslin bag filled with an astringent powder, or instruments of a variety of shapes, made of wood, glass, ivory, etc.

By some these are objected to as being indelicate, causing a vaginal discharge; if too small, being of no use; if too large, producing dilatation of the vagina, causing ulceration, and contraction of the vagina; becoming incrusted with calcareous matter, etc.

If but a small part of these effects of the use of pessaries be unavoidable, very few practitioners would use them. But this is by no means the fact, and to denounce an instrument because it may be made to do harm is unphilosophical.

They are of service if used in accordance with the following rules:—

Never employ a pessary if there be irritation or inflammation of the vagina or cervix uteri. Adapt the size precisely to the case. Watch the patient, and remove the instrument if occasion arise for so doing. Examine at proper intervals to see that no mischievous effects are produced. Teach the woman to keep the instrument clean by daily vaginal injections of water or weak soapsuds. Remove the pessary occasionally to see that it remains in good condition.

Again, a pessary should be as light as possible; it should be made of a material which will retain a smooth surface, and therefore not be acted on by the fluids, and of a form to cause the least possible pressure consistent with securing the object for which it is used. The lightest form is the ring, and hence is preferable. This should be made of silver or gold, as glass or ivory are too heavy. Gutta-percha, if used in its purity, is excellent. This form may be made of a piece of watch-spring, fastened in the shape of a ring, and then covered with the gum.

The *globe* pessary is sometimes of importance to aid in replacing and then retaining the uterus.

Stem pessaries, and those made of cork, sponge, etc. are highly objectionable for the reasons above named.

"Of late, therefore, I have confined myself, with very rare exceptions, to the ring pessary made of gutta-percha or metal, and the globe pessary, made in the form of a hollow sphere, of silver or gold."—(*Am. Med. Monthly*, April, 1860.)

VII.—*Puerperal Convulsions successfully treated by Subcutaneous Injections of Morphia.* By PROF. SCANZONI, of Wurtzburg.

Prof. Scanzoni has long employed this method of treating disease with success, but attaches especial importance to the following case, as it seems to prove that the subcutaneous application of narcotics furnishes a means of acting on abnormal irritations of the brain with greater rapidity and certainty than by the mouth. Prof. S. is convinced that a kind of intoxication produced by opium leads with more certainty to a favorable termination than any other remedies for this terrible disease. But, as from a variety of causes, it is not always possible to employ this agent either by the mouth or per rectum, the subcutaneous injection of these remedies supplies a means by which to overcome these difficulties.

He is also convinced by numerous experiments that, although the effect of this method is not always persistent, yet it is constantly produced, and that within a very short time after the injection. The symptoms of the action of the remedy upon the brain are drowsiness, giddiness, headache, sickness, feeling of constriction in the throat, even vomiting and depression. These facts, taken along with the known effects of the subcutaneous application in delirium tremens, mania, chorea, tetanus, etc., induced him to try the same treatment in puerperal convulsions, and with the most satisfactory results. After three injections of meconate of morphia, there occurred only two attacks in nine hours, while previously there had been three attacks in an hour and three-quarters. This is the more remarkable, as experience has shown that, as a general rule, the paroxysms became not only more violent, but follow at shorter intervals as the labor advances.

Case D, aged twenty-one, primipara, strong and robust, seized with nervous paroxysms and loss of consciousness in the night of June seventh. The whole body and extremities œdematous; sounds of the fœtal heart distinct; os uteri dilated to the size of a sixpence; head presenting. Urine very albuminous. At eight o'clock next day she was seized with a second convulsive attack of a marked character, which lasted for some minutes. On recovering consciousness, she could answer questions. A third convulsion succeeded at a quarter to nine, a fourth in an hour; again in two hours, and again at six. After the fourth, consciousness did not return, and the breathing become stertorous. At ten o'clock, she was bled about eight ounces; an enema, with twenty-five drops of laudanum, was given; the body was put into a warm bath, while cold was applied to the head. The meconate of morphia was now, at three different times, injected under the skin, the quantity amounting in all to about ten grains of opium. Labor advances slowly. At three o'clock next morning the membranes burst; the os dilated to the size of a half-crown; the head still high up above the brim; sounds of the heart very distinct. At seven, the os was larger than a crown-piece, very dilatable, the head high up and immovable; complete loss of consciousness, profound coma. The forceps were now employed, and a live child delivered without much difficulty; the placenta followed. Some wine, and ten drops of tincture of amber and musk were now given. At eleven, a seventh attack came on, but was slight and short; after which she became excited, but toward morning grew more calm. At nine in the morning, she could answer questions, and remained like a drunken person; pulse 128. Nothing but lemonade now given. During the night there were several slight attacks of mania. In the morning she answered rationally; pulse 108; œdema diminished, abdomen tender, and numerous râles in the lungs. Warm bath, lemonade, and expectorants were prescribed. Evening, quite herself; pulse 132. She went on well, and by June seventeenth all albumen had disappeared from the urine, and by the twenty-first she left the hospital with her child, being advised to continue the use of steel for a considerable time.—(*Bull. Gen. de Thérap.*, March, 1860; *Ed. Med. Jour.*, May, 1860.)

VIII.—*Collyrium in the Ophthalmia of New-born Infants.* By M. FOUCHER.

Glycerin, fʒ ix; Argenti Nitrat. gr. jss ad iij. The eye is first washed by injecting a very weak solution of chloride of sodium, and then a drop of the above is deposited on the internal surface of the eyelids by means of a small camel's-hair pencil.—(*Louisville Med. Jour.*, March, 1860.)

PHYSIOLOGY.

BY S. WEIR MITCHELL, M.D.,
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I.—*Observations on Digestion, made on a Case of Fistulous Opening into the Small Intestine.*

Prof. Busch, of Bonn, has availed himself of the opportunity afforded by a case in which a fistulous opening into the intestine existed, of studying several points in regard to the physiology of the digestive process.

A woman, aged thirty-one, in the sixth month of her fourth pregnancy, was tossed by a bull, one of whose horns lacerated the abdominal wall. At first there seemed to be no injury to the intestine; but at the end of three days a perforation appeared, resulting in the establishment of an opening through which food escaped. In six weeks, the woman, although she ate much, had become extremely emaciated and weak. She was then taken to Bonn. Between the umbilicus and the pubes, there was an aperture in the abdominal wall more than an inch and one-fifth in length, the bottom of which was formed by the posterior wall of the intestine; the upper and lower ends of the intestine were represented by two orifices at the angles of the wounds. The position of the wound, the size of the intestine, the existence of valvulæ connivantes in large number, the fluidity of the chymous material which exuded from the upper end, and its grass-green aspect, led to the inference that the injury had affected the upper third of the small intestine. Nothing whatever passed from the upper to the lower opening; and several attempts to establish a communication proved fruitless. The patient was allowed to eat as much as she wished; but as this was not sufficient, food, such as soups, eggs, etc., was thrown into the lower opening; frequently also, pieces of cooked eggs and meat were thrust into it by the finger. Her general health improved under this treatment; and after a time the supply which she received by the stomach was sufficient.

Hunger.—The patient, at first, had a most voracious appetite; she never felt satisfied. She continued to eat even when the first portions of food which she had taken were escaping through the opening. She then would say that she felt better, but still hungry. Prof. Busch infers that hunger is composed of two separate sensations; one general, the other local—the former resulting from the want of material to repair the waste of tissue.

Movements of the intestine.—The bottom of the opening was formed of a long portion of the posterior wall of the intestine, the anterior wall having been destroyed by gangrene; there was, also, a large ventral hernia, the coverings of which were so thin, that the least modification in the size of the intestine was as clearly perceived as if it had been laid bare. During the ordinary peristaltic movements, it was not possible to observe any difference between those which took place in the portion of intestine covered by skin, and in that which was exposed to the air. When, on the other hand, the upper part of the intestine became invaginated in the opening, this portion contracted much more actively, and was sometimes the seat of atonic contraction which stiffened and raised it like a solid body.

The intestinal movements were not continuous; there were often intervals of complete rest during more than a quarter of an hour. During these intervals, neither exposure of the part to the temperature of the room, nor the careful introduction of the finger, would excite peristaltic action; even the taking of food would not excite it at once. There was no regularity in these intervals of action and rest, except during part of the night. Up to 10 or 11 P.M. there was a flow of chymous material or of liquids from the upper end of the intestine, so that, at first, the patient was always wet, in spite of all care. No discharge then took place until 4 or 5 o'clock in the morning. When she made a hearty supper, a part escaped at once, but the rest remained in the digestive canal until the next morning. This pause in the intestinal action did not arise from sleep, for it was observed when the patient lay awake at night, and the matters escaped in the daytime while she slept as well as when she was awake.

The escape of the matters contained in the intestine was not continuous, but jerking; and a propulsive movement of the intestine was even observed in the neighborhood of the opening. It is possible, however, that this was only the result of the adhesion of the intestines to the abdominal wall, which furnished a "point d'appui."

Reversed peristalic movements existed and frequently impeded the experiments. Thus the aliments introduced into the lower opening of the intestine were often rejected after some hours, and fatty matters even after some days.

Observations on the lower end of the intestine; the intestinal juice.—As the lower end of the intestine received nothing whatever from the upper end, it was possible to study in it the intestinal secretion in its pure state. The quantity of this in the physiological condition was not great. On introducing a bivalve speculum, the intestinal mucus could be plainly seen between the valves; it was white, or of a very slight rose tint. Sugar, tied up in a net bag, and introduced into the intestine, was not completely dissolved in a quarter of an hour. Under pathological irritation the quantity of juice was increased. This was ascertained on two occasions. It was then thick and consistent. The reaction was always alkaline. The quantity of solid matter contained in it varied, according to numerous observations, from 7·4 to 3·87 per cent., the mean being 5·47 per cent.

Digestive action of the intestinal juice.—The digestive property of the intestinal juice has been denied by some, while others have, correctly, admitted it. At the commencement of the treatment, the state of the patient began to be improved only when she was fed through the lower opening of the intestine. Into this were introduced soup, beer, gruel, hard eggs, and meat cut into small pieces. During the six weeks previous to her entrance into the hospital, the woman had only two small, hard, stools. After being fed in the way above described, she had at first an abundant evacuation every twenty-four hours; but later it became necessary to use enemata. The evacuations resembled ordinary fæcal matter in form and consistence; but the color was grayish white, and they emitted a repulsive putrid odor. No portions of egg or of meat were found in them.

In order to study the digestive action of the intestinal juice on different foods, a weighed portion of food was inclosed in a net bag, and introduced into the intestine through a speculum. To ascertain the quantity dissolved, the loss of solid matter was sought. For this purpose a known quantity of the same food was dried, and the amount of solid matter estimated, from which, on drying at the same temperature the portion removed in the bag, it was easy to calculate the loss which the latter had sustained.

Protein matters.—Coagulated albumen and cooked meat always lost substance, and the morsels when drawn out presented traces of decomposition. The angles of the cubes of albumen were rounded, and the surface had a cheesy aspect, and peeled off in grumous masses when washed with water; the meat was flabby, soft, and pale. The masses had a penetrating, putrefactive odor, and the presence of hydrochloric acid evolved ammoniacal vapor. This was not the result of ordinary putrefaction from moist heat, for none of the experiments lasted above seven hours, and decomposition commenced at an early period. The cause can only be sought for in a peculiar ferment furnished by the intestinal juice. Of albumen the percentage quantity digested varied from 35·35 in six hours and a half to 6·5 in five hours and a quarter; that of meat varied from 29·9 in seven hours to 5·5 in five hours.

Starch and sugar.—Starch, dried at 212°, was introduced. The percentage loss varied between 63·53 in five hours and a half, and 38·5 in six hours. After injecting a solution of starch into the lower end of the intestine, the stools were found to contain neither starch nor sugar, but only traces of dextrine. The starch underwent conversion into grape-sugar, which was always found in the bag. Cane-sugar was not changed into grape-sugar; a large portion was found in the fæces in the state of cane-sugar, and the urine contained no trace of it.

Fats.—These were submitted to experiment on two occasions. On the first, more than three ounces (avoirdupois) of melted butter were introduced in small portions into the intestine. After ten days the patient spontaneously had a white, very fetid stool, of the consistence of *bouillie.* On being examined, after cooling, it was found to be covered by a layer of solid fat; the subjacent portion, under the microscope, appeared chiefly composed of large fat-drops and fat crystals mixed with epithelial cells. The avacuation had an acid reaction, and the vessel in which it had been treated by ether evolved an odor of butyric acid. A little more than one-sixth of the quantity of fatty matter administered was found. A large portion, however, of the butter had been expelled from the intestine by reversed peristaltic movements, so that probably little or none of it was absorbed. The second experiment, which was made at the end of a fortnight with cod-liver oil, gave precisely the same result.

Observations on the upper end of the intestine.—Alimentary matters, contrary to the general supposition, did not remain long in the stomach. In the morning, when the intestine was empty, the peristaltic movements expelled frothy mucus. On giving food which could be readily recognized, the first portions appeared at the opening in about a quarter or half an hour, and after a copious meal, three or four hours were sufficient for the expulsion of the whole.

The reaction of the mixture of digestive fluid, expelled in the fasting state, was almost always neutral, rarely faintly acid or alkaline. The intestinal juice, when carefully washed from the fistulous opening, was constantly found to be alkaline. After a meal, the chymous mass gave very variable reactions. At first, protein compounds seemed to produce an alkaline or neutral liquid, while fat, starch, and sugar gave an acid one; but repeated observations showed so great variations in these respects, that no fixed results could be arrived at.

The solid aliments contained in the chyme did not appear much changed on simple inspection; but on touching the surface of coagulated albumen and pieces of meat, they were found to be more friable than in the fresh state. The muscular fibres of meat were divided both longitudinally and transversely, as is already known to be the case; and this was observed more when the meat had been very finely cut up. These solid alimentary matters floated in a large quantity of biliary fluid; but after the eating of large quantities of cabbage, turnips, and potatoes, a small layer of liquid separated only after the mixture had been allowed to rest a considerable time. Whenever the diet during the day was confined to a single article of food, the chymous mass was more consistent toward evening than in the morning; while after a variety of food, the quantity of liquid was the same at different hours.

After the injection of feculent food, the chyme contained a large amount of starch and sugar; while, after cooked protein compounds, a slight turbidity was very rarely produced on boiling the liquid.

The digestive fluids were rejected in such a mixed state that no definite result could be derived from their examination. The absence of indications of the presence of sulpho-cyanide of potassium showed that saliva was not present. Besides bile and pancreatic juice, there must have been a large amount of fluid supplied by the stomach, for the total of solid matters was very small; the average was 2·48 per cent., the extremes 2·56 and 2·34. This is remarkable, since in man the gastric juice itself gives 3 per cent. of solid residue.

Cane-sugar.—After having ascertained that the fluids passed from the opening in the morning, when the patient had been confined to an exclusively animal diet on the preceding day, gave no reaction with the potash and copper test, she was made to take, fasting, solutions of cane-sugar. In the fluid which esaped only a small part of the sugar was found—as grape-sugar, never as cane-sugar. This observation confirms the opinion of M. Bouchardat.

Raw albumen.—In the morning, the albumen of four eggs, beaten up with a little water, was given to the patient. After four hours there was collected a moderately large quantity of an alkaline liquid, thready, mixed with bile, and containing no coagulated albumen. If the gastric juice had solidified that substance, portions of it would have been found. The quantity of albumen secreted was found to be 36 per cent. of the amount taken in.

Gum-arabic underwent no change, and escaped almost entire from the opening.

Gelatine.—Of this substance, nearly two-thirds were absorbed; the remaining third, which escaped, had the ordinary chemical characters, except that it did not gelatinize, and that its warmed solution was rendered turbid by acetic acid.

Milk.—After milk had been taken, an acid liquid escaped, in which the casein had been coagulated by the acid of the stomach, not in large masses, but in fine particles. The filtered liquid contained a portion of uncoagulated casein.

Fats.—A large dose of cod-liver oil was given to the patient in the morning; and on each occasion the quantity of liquid that escaped was relatively very large. Its reaction varied; most frequently it was acid, rarely alkaline. In the latter case, the fat was so finely divided that it could not be recognized by the naked eye; but, under the microscope, oil globules were found in the molicular state. When the reaction was acid, the greatest part of the fat formed a similar emulsion; but on the top there floated a smaller quantity of oil, in large drops. When the alkaline emulsion had been kept during twenty-four hours, it became acid, and a part of the oil floated on it in large drops.

Digestibility of certain articles of food.—Prof. Busch endeavored to obtain information on this subject by examining the quantity of ingested aliment which arrived at the opening in the upper part of the intestine. In one experiment, in which two ounces of sugar were taken, only one-thirtieth part reappeared; in another, in which three ounces were taken, one-fifteenth was found. Of albumen, the proportion of the quantity absorbed to that found discharged in the chyme was as seven to four; of gelatine, almost as two to one.

Prof. Busch has drawn up a table which shows the proportion between the weight of material ingested and that of the chyme thrown out:—

	Food taken.	Chyme.
Fat	1.	6.
Gelatine	1.	3·675.
Boiled eggs	1.	2·73.
Meat	1.	1·73.
Milk	1.	1·25.
Turnips	1.	1·2.
Cabbage	1.	0·91.
Potato soup	1.	0·7.

With regard to the two latter articles, the quantity of juices secreted is too small to make up for the loss of absorption into the stomach and the commencement of the small intestine; while fat and gelatine give rise to a considerable secretion of fluid.

In examining the relation between the quantity of solid matter taken in and that found in the chymous mass, the loss representing the quantity absorbed, the following results were arrived at:—

	Solid matter taken in.	Solid matter rejected.
Gelatine	1.	0·94.
Boiled eggs	1.	0·76.
Milk	1.	0·62.
Cabbage	1.	0·58.
Potato soup	1.	0 53.
Turnips	1.	0·49.
Meat	1.	0·35.

Although these numbers cannot be supposed to possess an exact mathematical value, they nevertheless afford important instruction.

Two experiments were made during periods of twenty-four hours: once with a varied animal diet, and at the other time with a mixed vegetable and animal diet. As far as the results of these experiments showed, the amount of matter absorbed from the mixed diet was about ten times as great as that absorbed from the purely animal diet. While the patient was taking the animal diet, the matters which escaped from the opening consisted at first (as always) of a liquid in which floated fragments of meat and of eggs; gradually, however, the quantity of fluid diminished, the mass became more consistent, and at last, especially on the following morning, there escaped a mass having the appearance and smell of pure fresh meat, not colored by bile. Under a mixed diet, the chyme preserved its liquid consistence throughout, except in the middle of the day, when it became more consistent after the patient had taken some legumes at dinner.

Digestive properties of the fluids discharged from the small intestine.—In the course of his researches, Prof. Busch observed that the liquid which escaped from the opening, especially after the ingestion of protein aliments, passed very slowly through the filter, and that the fragments of meat and egg continued to diminish in size while lying on the filter, so that at the end of the operation only small portions of solid matter were left. This proved that the digestive influence of the mixture of gastric, pancreatic, and intestinal juices and bile was exerted on the protein compounds from the commencement of the small intestine; and this occurred, whatever was the reaction of the fluid. But the aliment had been in contact with pure gastric juice in the stomach; it was, therefore, interesting to ascertain whether the mixture of digestive juices possessed equal power on food plunged directly into it. Experiment on this point showed that coagulated albumen and roast veal, placed for a period varying from six to eight hours, at a low temperature, in contact with the alkaline fluid which escaped from the fistula after the ingestion of fluid albumen or of meat, lost a small quantity of solid matter and were slightly disintegrated. But this action was incomparably less than that which was exerted by the mixed juices on matter which had been submitted to the action of pure gastric juice. It follows from this, that alimentary matters leave the stomach while imperfectly digested, and that their digestion is performed in great part in the intestines.—(*Archiv. für Pathologische Anatomie und Physiologie*, band. xiv.; and *L' Union Medicale*, 15 et 20 Mars, 1860.)

II.—*Experimental Epicrisis of some late Researches on Liver Sugar.*

By J. L. W. Thudichum, M.D.

The discussion which has lately taken place at the Royal Society, of a paper by Dr. Harley, in which the views advanced some time ago by Dr. Pavy, and noticed at length in this journal, relative to the glycogenic function of the liver, are controverted, recalls to my memory some experiments which I made in the early months of 1859, with a view of testing the correctness of Dr. Pavy's Chemical Proceedings and Physiological Conclusions. The result of these experiments is adverse to the opinion of Dr. Pavy, and in accordance with that of Dr. Harley, and consequently confirmatory of the doctrine of the glycogenic function of the liver, as generally admitted before the publication of Dr. Pavy's paper. My experiments have, moreover, afforded me an opportunity of ascertaining the sources of fallacy in at least two of Dr. Pavy's modes of proceeding, and have taught me the conditions under which opposite results may be obtained by the same experiment with the same proceeding—a fact which (as I am informed) was unexplained by the late discussion.

A dog of fifteen pounds weight, which had for several days been fed upon tripe exclusively, was narcotized with puff-ball, and deprived of a small piece of his liver. This, without loss of time, was pounded with an equal amount of caustic potassa, without the addition of water; and the pale-reddish magma was filtered through asbestos. The first filtrate, brought into an alkaline solution of copper, gave an abundant red precipitate of suboxide of copper, evidencing the presence of sugar.

Every drop of the filtrate which passed during the next hour yielded the reaction. After that the filtrates ceased to show sugar. The mixture on the funnel had been mixed with water and stirred, and had assumed a dark-red color, having been of a pale flesh-color before.

A second piece of the same liver was exposed to the air for fifteen minutes, and then treated like the first. It exhibited the presence of sugar for one hour, after which the reaction ceased.

The rest of the liver was placed in water boiling in a copper pan. The extract afterwards yielded sugar and glycogenic substance. No leucine was present in this extract.

In the second experiment, a dog of twenty-one pounds weight was narcotized by a blow on the head. One entire lobe of the liver was quickly pounded with potassa; and after incorporation of the two substances, some water was added to the thick magma. It was observed during the pounding and trituration, as well as during the admixture of the water, that the temperature of the mixture rose so considerably, that the hand, which was placed to the outside of the thick wedgewood mortar, felt it to be quite warm. The filtration of this mixture was difficult, owing to the asbestos being too fine. The first clear filtrate was only obtained after half an hour had elapsed, and contained no sugar.

To one ounce of the mixture, ten grains of pure grape-sugar were now added. The filtrate, after twenty-four hours, did not at first give any reaction with copper solution; indeed none at all could be perceived in a test-tube. Only after prolonged standing of the test, in a china dish, the merest trace of red deposit could be distinguished in the bottom of the dish after the fluid had been cautiously decanted. The ten grains of sugar had so effectually been destroyed in the mixture that certainly not one-thousandth part of them was left over.

The rest of the liver contained little glycogenic substance, but no leucine.

The third experiment was made upon a dog of fifteen pounds in weight. The abdomen was opened while the animal was under the influence of puff-ball. The mixture of liver and potash became again very warm, was mixed with water and quickly filtered through cotton by the help of air pressure upon the principle of Beart's coffee machine. The filtrate showed no reaction for sugar, but assumed a violet color.

The first experiment showed me that when a liver containing sugar is treated with caustic potassa, under circumstances preventing any rise of the temperature of the mixture, the sugar, under the influence of caustic potassa and the oxygen of the air and water, is rapidly destroyed.

The second experiment showed that the destruction of sugar, under circumstances favoring a rise of the temperature, is more rapid still, the presence of sugar being, of course, assumed or allowed. It also showed the rapid destruction of sugar, under the influence of potassa and air, at the ordinary temperature.

The third experiment exhibited the influence of a raised temperature alone in destroying (hypothetical) sugar mixed with caustic potassa. So short a time was passed in the experiment, that even allowing some influence to the oxygen dissolved in the water, the influence of the oxygen of the air, though not excluded altogether, must have been limited.

No doubt, in the second and third experiment, the proof of sugar having been originally present in the liver is wanting. But the first experiment made me so well acquainted with all the conditions which are essential for finding or missing any sugar in the liver, by employing potassa as a reagent, that I was quite satisfied of the correctness of the conclusion, which caused me at once to give up all further experiments on this subject, as lost labor; namely, *that no experiment can be admitted as proving the absence of sugar from the liver, in which the contact of that organ with potash, air, and water, at the ordinary or any higher temperature, has not been avoided.*

The behavior of grape-sugar with almost any alkali will for itself substantiate that proposition. A solution of caustic, baryta, and grape-sugar, on standing, is gradually transformed entirely into one of glucate of baryta. A mixture of caustic potassa and grape-sugar, when only heated to 60° or 70° Centigrade, (140° or 158° Fahrenheit,) becomes brown and smells of caramel; and the sugar is entirely transformed into glucic and melassic acids. Grape-sugar fused in the water bath reacts so violently with solution of caustic potassa, that frequently a portion of the mixture is projected out of the vessel employed for the test. Caustic alkali then, of itself, without the interference of oxygen, is most hostile to grape-sugar, and appropriates and transforms it with increasing violence the higher the temperature under which they meet.

A mixture of grape-sugar and caustic potassa is very liable to be attacked by the oxygen of the air, directly and indirectly. Such a mixture, when exposed over night, loses from 30 to 40 per cent. of its sugar, as was proved by Traube, in some experiments made for another purpose. But when to the mixture is added a body having more direct affinity to the oxygen of the air than sugar, but less when that oxygen is once in a bound condition, and therefore easily parting with it, then the oxidizing action of the air becomes most fatal to sugar. Such a body is indigo, which, at the same time, admits of making the experiment visible. It rapidly yields oxygen when dissolved in the alkaline mixture, and is reduced, becoming colorless; but the air restores oxygen and color to the surface, which again passes it to the sugar below. Not until the whole of the sugar is oxidized, does the fluid resume its blue color. The indigo here acts as a mediator between the oxygen of the air and the sugar, by transferring it from one to the other. A precisely similar agent of transfer is the red coloring matter of the blood contained in the liver. When mixed with the alkali, it becomes pale, is reduced; something (sugar when present at all events) is at the same time oxidized. The addition of water containing oxygen, the contact of the air itself, restores the dark-red color, immediately to be lost again in the lower strata of the fluid. Ultimately the fluid remains dark; all oxidizable matter is destroyed. The sugar of the liver is not only destroyed by the direct agency of air and caustic potassa, but also by the oxygen, which the red coloring matter of the blood has a remarkable power of binding and transferring. When I applied these considerations to the experiment of Dr. Pavy, in which he injects a solution of caustic potash (in water not stated to have before been freed of oxygen) into the liver of animals, (showing the temperature of 37° Centigrade, or 99° Fahrenheit, and being saturated with oxygen, or filled with blood, containing it in a loosely combined state,) I was forced to the conclusion that any sugar which might be present would assuredly be oxidized and destroyed at once.

The hurry with which Dr. Pavy found himself obliged to operate, to avoid finding any sugar, has its ready explanation in the rapid decrease of the temperature which the liver does experience when the abdomen is opened. The higher the temperature at which sugar, potash, and oxygen meet, the more rapid and complete is the destruction of sugar; if the liver is allowed to get a little cool before injecting the potash, sugar is found, because it has not all been destroyed.

The facility with which sugar in alkaline solutions attracts oxygen from the oxydes of metals points the same way. The reaction with copper has become *the* test for grape-sugar. Acetate of copper, peroxyde of lead, nitrate of suboxyde of mercury, corrosive sublimate, nitrate of silver, chloride of gold, trisnitrate of bismuth, surrender a portion or the whole of their oxygen to grape-sugar in alkaline, neutral, or even acid solutions. The avidity of grape-sugar for oxygen, under a great variety of circumstance, is really astounding.

The potash test having been the basis of Dr. Pavy's conclusions, and being now proved to be fallacious, the conclusions themselves, in so far as they are derived from the analysis with potash, are not any longer valid. The reverse of Dr. Pavy's results has moreover been obtained by means of my own; and now, by the much more extensive experiments of Dr. Harley, made with Dr. Pavy's own method. The experiments in which freezing and citric acid are employed respectively, I have not repeated. But this I have experienced in some preliminary tests, that alkaline citrates have so strong an affinity for the oxygen of the air, that red suboxide of copper, lying at the bottom of a test-tube half filled with alkaline citrate, after exposure to the air for some days, becomes oxidized again and dissolves with a blue color in the previously colorless fluid.

I must confess that I am unable to comprehend the meaning of the freezing experiment; but leaving aside speculation, there is in Dr. Pavy's proceedings following the freezing, much reason for distrusting that experiment also. He met with great difficulty in filtering his alkaline solutions of liver, and therefore neutralized them with sulphuric acid before filtration, filtered them by squeezing through flannel, and then again made them alkaline. The mixture thereby not only became enormously bulky, but was for a length of time exposed to the air under a variety of circumstances; Dr. Pavy apparently taking it for granted that when liver and potassa were once incorporated, the rest of the operation could be completed at leisure, as sugar would not any longer be formed. But in absence of the guarantee that none would be destroyed, and in presence of evidence that much is actually destroyed under those conditions, his very security makes it doubtful whether he employed even that moderate speed which his method permitted.

For the repetition of Dr. Pavy's, or other similar experiments, I can recommend a small Beart's coffee machine, as the speediest and best contrivance for effecting quick filtration.

As the result of many experiments, Dr. Pavy found that there was no sugar present in the liver; but on the other hand he gives, as the result of sixty observations, that sugar is only found to the extent of the merest trace in the blood of the right side of the heart, under a natural or ordinary condition, during life. Even this result, although of a positive nature, and speaking against his conclusions relative to the liver, is not without objections, based upon the mode of analysis employed. He defibrinated the blood, probably by stirring, treated it with spirit, and pressed through flannel. The residue of the evaporation was tested with Barreswil's solution.

Blood, to be analyzed for sugar, in order to find a maximum, must be analyzed much as for urea; it must be allowed to flow directly into absolute alcohol, and afterwards the additional precaution must be taken of removing its alkalinity when the filtrate concentrates on the water-bath, otherwise much sugar is necessarily destroyed.

I had formed the above positive opinions and conclusions on Dr. Pavy's experiments many months ago, as many friends can testify, who were either present at one or the other of the experiments, or were in conversation informed of my conclusions. For this reason my results and reflections, which were obtained quite independently, may be considered a strong confirmation of some of the propositions of Dr. Harley, as contained in the published abstract of his paper. —(*British Medical Journal*, London, Saturday, March 17, 1860.)

III.—*The Coccygeal Gland of Man.* By PROFESSOR LUSCHKA, of Tubingen.

The coccygeal gland is situated, as its name indicates, on the floor of the smaller pelvic basin. It was discovered by Professor Luschka while studying the anatomy of this region. It has no great interest in connection with the topographical anatomy of these parts; but its existence would seem to cast light on some questions in embryogeny and pathological anatomy. From this point of view, therefore, the discovery of Professor Luschka merits attention.

This gland, whose existence is constant, is a single organ, about the size of a pea, oval, yellowish red, and of a rough surface. It is situated immediately in front of the summit of the coccyx, in a kind of median grove, between the two tendinous insertions of the levator ani muscle, at about the fourth division of the coccyx; in front, it is covered by the fibres of the retractor of the anus* and its aponeurosis; behind, it is in relation with the coccygeal insertion of the anal sphincter. The gland is best found from its posterior side, by dissecting away and removing successively the skin and the sphincter of the anus. As it is ordinarily situated in a rather abundant atmosphere of fat, it is better at first to make this dissection on thin subjects.

Not uncommonly the coccygeal gland is found to consist of five or six separate granules, the size of millet grains, suspended in cluster on the smaller branches of the middle sacral artery, and reunited to one another by areolar tissue. It resembles a good deal the granular bodies so frequently found in the neighborhood of the kidneys in certain cartilaginous fish, (choudropterygians,) and which, according to Stannius, appear to be the analogues of the supra-renal capsules. The same granular character is discoverable even when the gland seems at first sight to be formed of one homogeneous mass.

The parenchyma of the coccygeal gland is always of considerable consistence. For microscopic examination it should be torn with needles or thin sections of it made with the aid of scissors; most of the structural details become more distinct upon the addition of acetic acid. This procedure enables us to distinguish in the gland structure, on the one hand, a dense stroma of connective tissues rich in nuclei, and on the other, vesicular interspaces and culs-de-sac inclosed in the areola of the stroma.

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* A portion of the levator ani muscle.

The vescicles, whose diameter varies from the four-hundredth to the twelve-hundredth of a millimetre, are disseminated in less or greater number among the other elements. In their exterior appearance they resemble the ductless follicles of the digestive tube; being distinguished from these, however, by the absence of vessels and of an areolar stroma in their interior.

The culs-de-sac are very irregular in form and arrangement. They are more or less twisted and contorted in various ways, and here and there are very much narrowed. Ordinarily simple, they are at other times furnished with appendages whose form varies much, or again, they may be found to ramify in such away as very exactly to simulate the arrangement of the conglomerate glands. They are never found, however, to reunite in a common excretory conduit.

These culs-de-sac, as well as the vesicles, are formed by a basement membrane, which is hyaline, structureless, and more or less confounded with the fibrous stroma and its cellular elements. There are many variations in the form and arrangement of these latter elements. Most generally, the internal face of the basement membrane is lined with a layer of nucleated cells, analogous to glandular epithelium; at other times these cells are of irregular shape, and are more like certain epithelium elements of the choroid plexus. The rest of the cavity is filled up by an amorphous mass, in which are disseminated a great number of nuclei and nucleated cells, the epithelium covering having disappeared. Finally, in the very young, some of the vesicles occasionally present cylindrical epithelial cells, furnished in some cases with vibratile cilia.

The coccygeal gland is supplied by many small vessels, which come off from the middle sacral artery, and distribute themselves in a loose capillary net-work around the vesicles and the culs-de-sac. An enormous number of nerves also enter the gland; they arise from the coccgyeal ganglion, from the ganglion impar, or, this being absent, from the inferior looped extremity formed by the union of the two great sympathetic nerves. These nerve fibres form a close plexus in the parenchyma of the gland; in this situation can often be seen primitive nerve cylinders ending in the slight enlargement. These extremities appear to carry a ganglion cell, such as are found, according to Kölliker, almost constantly among the branches of the last sacral nerve.

In structure the coccygeal gland resembles the glands known as the ductless glands. It is very remarkable that it should be found in a situation which corresponds to the lower extremity of the dorsal chord, just as at the other of this great nervous trunk is to be found the greater lobe of the pituitary gland, these two bodies being thus placed in the same relation with the two extremities of the great sympathetic nerve.—(*Gazette Hebdomadaire*, April 20, 1860; from the *Archiv für Pathologische Anatomie*, viii., new series, p. 106.)

MATERIA MEDICA AND THERAPEUTICS; MEDICAL CHEMISTRY; TOXICOLOGY AND LEGAL MEDICINE.

BY EMIL FISCHER, M.D.

MATERIA MEDICA AND THERAPEUTICS.

I.—*On Penghawar Djambi.* By DR. VINKE.

After reporting fourteen cases in which the hemorrhage from serious wounds or bleeding ulcers was promptly and permanently arrested by the application of penghawar, the author communicates the experiments made by him with a view to ascertain the *modus operandi* of this remedy. The treatise contains the following information:—

1. *On the phytography of penghawar* (*paleæ cibotii.*)—The specimen examined by the author had been to the greater part separated from the stipes of the fern, and consists of delicate filaments, half an inch to two inches long, which are very soft, flexible, and so light that they keep themselves floating in the air for a long time. The shortest ones are thicker, dark gray or blackish, and are present in penghawar but in small quantity. The longer filaments are silky, shining, tortuous, very delicate, and of golden, light-brown color. It weighs so little that six grains constitute a considerable mass—sufficient to arrest bleeding from an artery one line in diameter. It swims on water, but falls to the bottom of the vessel after about half a minute, as it absorbs water; it gives an empyreumatic odor on being heated, burns faintly on being brought in contact with the flame of a candle, and detonates under complete combustion, diffusing an odor like agaric. On microscopic examination, the author found that the filaments of penghawar have nothing in common with hair. They form band-like, flat processes with articulations; their breadth surpasses their thickness three times and more. The joints are dark brown, resemble those of the shave-grass, but have delicate, often ramified processes. The part between the articulations is two to four times longer than wide, either of uniform width, or, in the dried state, conical, smaller at one end, of yellow color, translucent, covered with violet granules, which, together with the processes of the joints, fall off on applying a weak solution of caustic potassa, but become more distinct on being soaked in ether. The base of the filaments is either smaller, with branchy processes, or thicker, surrounded by hairs; their upper end is drawn out into a transparent, needle-shaped tubule. Each filament forms a hollow sheath which is partitioned by transparent diaphragms at the articulations. The cavity of the filament easily fills itself with any kind of fluid; fine powders do not penetrate into uninjured joints. In a solution of sulphate of iron the filaments become blackish, nearly opaque, and very brittle; if they have been previously soaked in ether, they assume a dark-brown color in the above solution. By iodine and dilute muriatic acid the physical properties of penghawar are not changed. A solution of caustic potassa becomes dark, the filaments themselves assume a bright yellow color in it, are rendered very smooth and soft, in consequence of losing their granular cover and their processes. The

author does not attach much importance to the chemical reaction of penghawar, and only states that it forms not a green (v. Bemmelen) but a dark violet, blackish precipitate with the salts of iron.

2. *Results of experiments on freshly abstracted blood, and on living individuals.*—All the experiments show that the hemostatic effect of penghawar depends upon the capillary attraction of the water, which "exceeds the force by which the water in living blood is held in combination." The coagulation of the blood (also of that which is freshly drawn) is the immediate consequence of the blood being deprived of its watery portion—a fact which is confirmed by comparative experiments with capillary glass-tubes. Penghawar, however, acts with a five-times greater rapidity. A circumstance which promotes the firm adhesion of the coagulum to the surface of the wound and the permanent occlusion of the orifices of the vessels, consists in the elasticity and delicacy of the filaments; on moderate pressure the latter penetrate into the finest interstices and apertures on the surface of the wound, and thus cause coagulation of the blood not only on the surface of the wound, but also in the interstices of the tissues next to it. But it is particularly by the following qualities that penghawar excels other hemostatics:—

(1) It arrests, quicker than any other pharmaceutical means, (agaric, sponge, bovista, etc.) parenchymatous, venous, or arterial hemorrhage, provided the diameter of the artery does not exceed one line and a half. [The Indians stop bleeding, also, from greater arteries with penghawar.] (2) It produces a coagulum even in cases where the blood has changed so much that it has nearly lost the property of coagulating, or where the walls of the vessels are so diseased that they are incapable of a plastic process, as, for instance, in carcinomatous and scorbutic ulcers. (3) Penghawar does not change the vitality of the wound or ulcer, and therefore does not exert an injurious influence upon the healing process.

Penghawar acts better when crumbled than if applied entire. It is to be kept in a dry place. Five grains are sufficient to arrest considerable hemorrhage; more than one scruple was never required. It is pressed for two or three minutes directly on the bleeding surface, after which, if possible, a compressive bandage or strips of adhesive plaster are applied over it, taking care not to draw the wound too much together. If the bleeding does not proceed from the whole surface of the wound, it is not necessary to fill out the entire cavity of the wound or ulcer with penghawar. The hemorrhage ceased more rapidly, if the author pressed the penghawar (in the form of a pencil) so upon the bleeding surface that the filaments were directed perpendicularly against it. The internal administration of penghawar, as recommended by Gaupp and others, is quite useless.—(*Med. Zeitung Russlands*, 42–43, 1859, and *Schmidt's Jahrbücher*, April, 1860.)

II.—*On the Employment of Santonine in Nervous Affections of the Eye.*

By M. MARTINI.

M. Flourens presented to the Academy of Sciences of Paris, at the meeting of the twelfth of March, the second edition of M. Martini's work "on the coloration of sight and urine produced by the administration of santonine."

M. Flourens stated, that of the two effects of santonine mentioned, the former was certainly the most curious. Most persons who take santonine see objects green, some blue, and others straw colored. In the present edition, M. Martini has added new cases, and quoted those which have been published in England and France. In this edition also will be found some trials of santonine in nervous affections of the eye.

A woman, aged sixty-three, was affected with imperfect vision of the left eye. No visible alteration could be detected when M. Martini saw her in March, 1859. The pupil, however, was sluggish and larger than on the right side; in the aqueous humor a whitish cloud could be detected; and the patient could hardly distinguish light from darkness. M. Martini resolved upon trying santonine, and the patient was given for five days from four to six grains daily. She then saw, four or five times in the course of the day, objects of a greenish yellow, even with the weak eye. Eight grains were now daily given, and besides seeing things colored, as stated before, she could discern the faces of the persons around her. On the twentieth and twenty-second of March she still saw everything yellow, and more distinctly than before. The administration of santonine was now given up, and the improvement remained stationary.

In another case, santonine was given for two days to a patient who was amaurotic on both sides; and after that time the retina was found more sensible to light than before.

A third case is also mentioned, in which the patient had lost the right eye, and was amaurotic of the left. He was given ten grains daily. In a week he could read some words written in large letters on the wall.—(*London Lancet*, May 12, 1860.)

III.—*Subcutaneous Injections of Sulphate of Atropine in Tetanus; Recovery.*

By M. PESCHEUX.

M. Pescheux has communicated the following case to the Surgical Society of Paris: A woman had met with a scalp wound and a compound fracture of both bones of the leg, in consequence of the falling in of a chimney. For three weeks she progressed very satisfactorily, when tetanus set in with great violence. After almost every one of the usual remedies had been employed, M. Pescheux subcutaneously injected, along the spinal processes of the cervical vertebræ, a solution of sulphate of atropine in the proportion of one grain of the salt to one hundred of water. About two-thirds of Pravaz's syringe were used, when the patient was seized with the well-known symptoms of belladonna poisoning, which lasted about twelve hours. The tetanic manifestations, when these symptoms abated, were much less severe; and after another injection, made twenty-four hours afterwards, which, however, did not affect the patient so much as the first, she completely recovered.—(*Ibid.*)

IV.—*Employment of Glycerin in the Preparation of Sinapisms.*

By M. GRIMAULT.

A simplified and extemporaneous mode of preparing a sinapism is indicated by M. Grimault in the following formula: Glycerin, ʒiij; starch, ʒijss; essence of mustard, gtt. x. A thin layer applied on any material will induce more energetic and more prompt revulsion than that produced by the best mustard. The mixture should be stirred before employing it; and if the glycerin is of good quality the essence of mustard undergoes no alteration.—(*Bull. de Thérap.*, tome viii. p. 262, and *Med. Times and Gazette*, April 28, 1860.)

V.—*Pepsine in the Severe and Obstinate Vomiting of Pregnant Women.*

M. L. Corvisart has of late advocated the use of pepsine to allay the very dangerous symptoms connected with the uncontrollable vomiting of pregnant women; and it would appear that excellent results have already been obtained. In *L'Union Médicale* of the seventeenth instant, we find two remarkable cases, reported by M. Baudot, in which the first doses of pepsine immediately relieved the patients, who had been brought to a very low ebb by constant vomiting.—(*London Lancet*, April 28, 1860.)

VI.—*Iodized Oil of Juniper-berries.* By DR. HELLER.

Dr. Heller, of Vienna, found the use of this solution preferable to the ointment of iodide of potassium, which shows no action on the system, except when it has become yellow or decomposed, and contains free iodine, and the tincture of iodine, which sometimes, in prolonged use, produces very disagreeable effects. Iodine is readily soluble in oil of juniper-berries, but has to be mixed with it cautiously, and in small quantities at a time, in order to avoid explosion. The solution is brown and loses its color by standing, according to Dr. Heller; though a solution of twenty grains of iodine in one ounce of oil which had been prepared for an experiment, in order to determine the percentage of solubility, has not become colorless after standing several months. The preparation must be considered a chemical compound, for there is no free iodine detected in it by solution of starch. It has, furthermore, not the offensive smell of iodine; it does not stain nor destroy the epidermis like the tincture of iodine; and after its application iodine can be found in the urine as well as in the saliva of the patient. It recommends itself by all these qualities to the patronage of physicians. (*Wittstein's Vierteljahrschrift*, vol. viii. p. 462.) Oil of lavender can also be substituted for the oil of juniper.—(*Am. Druggists' Circular*, May, 1860.)

VII.—*On Indian Hemp.* By DR. FRONMULLER, of Fuerth.

Indian hemp has become known but lately. First welcomed as a new narcotic remedy, it seems to have been abandoned again on account of uncertain and weak effect. This is at least the case in Germany and France, and the causes of it are easily found. The contradictions of the authors are discouraging. Rigler, for instance, observed an accelerated circulation after the use of haschisch; Sigismund, a diminished frequency of the pulse; Ley found an exciting effect on the sexual organs; Scanzoni denies it; some saw contraction of the pupil, others not, etc.

It is further a fact, that the effect of hemp in the East is quite different from the effect it produces in Europe; what can be effected in Calcutta or Algeria with one or two grains, requires in Europe thirty or forty times as much. Two grains are considered at Cairo a large dose; with us, eight grains are the smallest dose. There is probably some ethereal ingredient in the Oriental hemp which is destroyed by transport. Many practitioners hesitated to increase the doses sufficiently for the desired operation. Having once employed the remedy, I made up my mind to ascertain the truth, and continued my experiments until they embraced one thousand cases. But before giving the result, I will shortly refer to the plant and its therapeutical exhibition.

The external appearance of Indian and European hemp is the same, as are their botanical characters. The differences described by many authors are probably due to local causes only; the only real difference is the quantity of narcotic resin which is secreted by particular glands—like the lupulin in the hop-plant. This resin exudes, in India, from the flowers, leaves, and stalks, and is known there by the name of *churrus*. Its quantity increases with the southern direction.

The hemp cultivated in Edinburgh by A. Christison, exhibited no churrus; plants collected in Regent's Park, by Ley, contained about one-tenth as much resin as their Oriental sisters. French and German hemp appears to be richer in resin; the hemp growing in Italy still more so. Greece and Asia Minor furnish quite a powerful product; but by far the strongest is from Persia and India, although even there variations are found according to the soil. The quality of the resin seems to be subject to a similar variation, showing the same difference as rhubarb, roses, and poppies do in different climates. All of them require the rays of an Asiatic sun for the full development of their powers.

Asia is evidently the native country of hemp. This is proven by direct statements, by its being frequently mentioned in the history of Oriental nations, and by the very derivation of the name: Cannabis, Kannabis, from the Kanub—Ganja of the Arabs. (Ainslie, Mat. Ind., vol. ii. p. 190.) From China, India, and Persia, the cultivation of hemp spread to Egypt, over Africa to Europe and America, the fibres and the oil recommending the plant.

Already Homer speaks (Odyssey, N., 220–230,) of the exhilarating effects; for this is undoubtedly meant by the *Nepenthes* which caused all sufferings to be forgotten. Helena received it from Egypt, and there hemp was long esteemed on account of its intoxicating quality. (Prosp. Alpin., de medic. Ægypt.) Even to this day hemp-wine is used by the Orientals for the purpose of intoxication. Herodotus mentions cloths made from hemp, and refers also to fumigations used in Scythia. Galenus was well acquainted with the narcotic effects of haschisch; and in a Chinese work, now in the great library of Paris, it is stated that a Chinese physician, Hoa-Tho, living A.D. 220–230, administered to patients he wanted to operate on, a medicine prepared from hemp, and made them in that way insensible. Rigler says a preparation of hemp has been used for the same purpose in India since times immemorial; it is there called *Esrar* —*i.e.* secret. During the Crusades, a Persian, Hassan Ben Ali, famous for the number and fanaticism of his soldiers, used haschisch to intoxicate and excite them, so that all over Asia Mohammedans as well as Christians trembled before them. These fellows—exterminated in 1256 by the Mongolian chief, Hulakan Khan—received, from their using haschisch, the name of Haschischin, Haschaschin. By perversion, that word changed into assassin.

For the sake of the narcotism alone, hemp is extensively used at present in a great part of Asia, Africa, and South America, either smoked, (in Algeria, Morocco, by the Hottentots and Brazilians,) or in the form of electuary, confection, tincture, pastiles, etc. In spite of the Crusades, this narcotic quality of hemp was not known in France until after the campaign in Egypt. England received the first notice of it through her physicians practicing in the East Indies. In Germany, Dr. Molwitz pointed out hemp, in 1818, as a substitute for opium; Hahnemann employed it against affections of the nervous system. Since 1830 a large amount of information, regarding especially the power and qualities of the Indian hemp, has been published, mostly by English and French physicians.

The few chemical analyses made of the hemp plant, show in it a gum, a bitter extractive matter, albumen, chlorophyl, ethereal oil, (about twelve drops in twenty-eight ounces,) and a resin, called by some *cannabin*, which appears to be the effective ingredient. No alkaloids have been found so far.

The more important preparations which have been employed are: for internal use, the powdered herb, in pills or powder; Oriental haschisch—a mixture of the foregoing with ginger and cinnamon, in different proportions, therefore not very reliable, may be imitated by mixing the powder of the leaves with sugar and mucilage of gum tragacanth, so as to form cakes—the resinous extract, best in pills; a tincture made by dissolving the extract in ten to twenty parts of alcohol, and an emulsion of the resin. Churrus, the pure exudation of the plant, is used like the extract, but rarely met with in commerce. Externally the resin is applied endermatically, or in the form of embrocation, with oils, ointments, chloroform, etc.; also in injections.

Physiological experiments on healthy persons, instituted by Landerer, Beron, Rech, Wolff, Judee, Schroff, myself and others, show more or less a disturbance in the digestive tract; affection of the nervous system, with convulsive movements and sudden shocks; congestion to the brain; confused ideas; excited imagination, with frequently changing pictures; torpor, and sleep—the cerebral symptoms being more constant, while the others vary to a great extent, sometimes nothing being mentioned but a few confused ideas, followed by sleep. Fumigations with haschisch produced in two consumptive patients, first, some excitement, then a short sleep, without any important narcotic symptoms afterwards.

The effects of hemp are combated by the same means as those of opium: vegetable acids, coffee, emetics, cold applications, leeches to the temples. Landerer recommends sea-water, Cayenne pepper, salted victuals, caviar, strong coffee, and, as an emetic, the sulphate of copper. At Vienna, lemonade and coffee proved of good service. O'Shaughnessy gave acids in large doses.

The long-continued use of Indian hemp induces prostration, dropsy, and sometimes a liability to sudden fits of mania, with great inclination to destroy and ruin. This, however, I think more ascribable to the alcohol mixed and taken with the haschisch, than to the latter. The cataleptic fits of the Indian jugglers are also explained through the agency of hemp, though it occasions such fits extremely seldom.

During the short time since its use as a medicine has become known in Europe, hemp has been extensively employed, and mostly as a calming, antispasmodic remedy. Its power to excite the action of the uterus has not been confirmed. It has been exhibited in the following diseases, enumerated according to the efficacy of the remedy:—

Tetanus and *trismus*. Professor O'Shaughnessy, in Calcutta; Dr. Motz, in Gerlachsheim; some practitioners in America; at the University Hospital of Würzburg; Dr. Skae, in Edinburgh. Saussure gave the tincture against *trismus neonatorum.*

Cardialgia. The experience of Dr. Wolff, of Berlin, in this regard is confirmed by my own experiments.

Delirium tremens. I obtained a good effect from the tincture.

Gonorrhœa. The acute form is greatly improved by the addition of hemp extract to an emulsion.

As an *antidote to strychnine,* hemp was administered by O'Shaughnessy and Ley.

In *acute bronchitis* it is recommended by Hamberg and Martins.

Against *ischias* it is also extolled by Hamberg.

Good effects have been observed in *rheumatism* by Inglis, O'Shaughnessy, and myself.

Spasmodic retention of urine yielded to hemp in the hands of Dr. Brenner von Telsach. Bryan praised the diuretic virtues of the tincture, having employed it in anasarca; Schuodart speaks likewise of a diuretic quality. I have been unable to detect it.

Corrigan prescribed the tincture against *chorea;* O'Shaughnessy, the hemp in *hydrophobia,* and the tincture in *cholera.* Mauthner was successful with the remedy against *hooping-cough;* J. Murray against *prosopalgia,* while it proved of no effect in the same affection to Professor Siebold.

Hubert employed hemp against the plague; Landerer against infarctus of the liver and spleen; Wolff against cancer of the womb. I found it to avail nothing in epilepsy.

Moreau and others, judging from the exhilarating and exciting effect of the Eastern product, thought it useful against melancholia and other mental disorders; the reports of the results obtained do not, however, agree.

For the purpose of inducing contractions of the uterus, Churchill, Simpson, Christison, Gregor, and Maguire availed themselves of the tincture of hemp. Heywood, in New York, pronounced haschisch a powerful emmenagogue. The experiments made in Germany, by Scanzoni and others, gave little satisfaction in this regard.

As an external remedy, I have used hemp many hundred times to relieve local pains of an inflammatory as well as neuralgic character.

Judging from my experiments, I have to assign to the Indian hemp a place among the so-called hypnotic medicines, next to opium; its effects are less intense, and the excretions are not so much suppressed by it. Digestion is not disturbed, the appetite rather increased, sickness of the stomach seldom induced, congestions never. Hemp may consequently be employed in inflammatory conditions. It disturbs the expectoration far less than opium. The nervous system is also not so much affected. The whole effect of hemp being less violent, and producing a more natural sleep, without interfering with the actions of the internal organs, it is certainly often preferable to opium, although it is not equal to that drug in strength and reliability. An alternating course of opium and Indian hemp seems particularly adapted to those cases where opium alone fails in producing the desired effect.

The best form are small pills made from the spirituous extract, with a little of the powdered leaves. The smallest dose to produce sleep may be set down at eight grains; a rapid increase is frequently required.*

All the pretended effects of hemp on the skin, kidneys, and sexual organs amount practically to nothing.—(*Prager Vierteljahrschrift*, xvii., 1860, and *Cleveland Medical Gazette*, May, 1860.)

VIII.—*Cutaneous Eruptions following the Use of Iodine.* By DR. FISCHER, of Vienna.

Dr. Fischer has published, in the *Med. Wochenschrift*, an able paper, wherein he shows that the continued use of iodine may give rise to eruptions, which assume different forms. He has, in the numerous cases which have presented these eruptions, noticed the four following forms: First, the erythematous; secondly, the papular; thirdly, the nodulo-pustular; and fourthly, the eczematous. The author does not venture to account for these peculiar effects of the alkaline salts of iodine, nor has he come to a fixed opinion as to the doses which may produce them. It is, however, important that the facts should be given proper publicity, as iodine eruptions might be attributed to other causes.—(*Lancet*, Am. ed., June, 1860.)

IX.—*On Gelsemin.* By DR. B. KEITH.

In the *Medical Press* for January second, Dr. B. Keith, of New York, has the following upon gelsemin, (prepared from the root of *Gelseminum sempervirens*,) which article he says he has used daily for the last eight years: "For controlling fevers of every type and grade; to arrest hemorrhage from the lungs, stomach, bowels, uterus, and urinary organs; in dysentery and bowel complaints; in spermatorrhœa, amaurosis, deafness, catarrhal affections, and hay-fever, I have used the gelsemin successfully. A single half-grain has arrested hemorrhage from the lungs, when all other remedies known to me had failed. While experimenting with it to ascertain its power for arresting hemorrhage, I gave to a lady, who had been confined two days previously, one and a half grains during twenty-four hours, which amount completely arrested the hemorrhage. I administered two grains, during the course of thirty-six hours, to a lady who had been suffering from uterine hemorrhage for two months, and that small quantity completely stopped the flow. So effectual is it in this form of hemorrhage, that I consider it quite a specific. In dysentery and bowel complaints, I consider it the most valuable article in the materia medica. From one-tenth to one-eighth of a grain, administered after each discharge, will shortly stop all hemorrhage and traces of disease." * * * "In dry-coughs, dependent upon irritation of the throat, it is the most prompt agent I have ever used. In nausea and vomiting I have used it, many cases yielding to a single dose of one-fourth of a grain."—(*New York Monthly Review*, March, 1860.)

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* The extract, in common use in this city, could not be given in so large a dose without fear of the most serious consequences.

X.—*Formula for Ozanam's Solution of Bromine.*

Dr. Ozanam's bromine water, which he has used with so great advantage in pseudomembranous affections, (vide *Med.-Chir. Review*, January, 1860, p. 161,) is prepared according to the following formula: Distilled water, 100 grammes, (3½ ounces;) bromide of potassium and bromine, of each 10 centigrammes, (1⅔ grains.) Of this solution one to five drops are given daily in a glass of water in croup and pseudomembranous angina; larger doses cause pain in the stomach, and vomiting.—(*Bullet. Thérap.*, lvi., 1859.)

XI.—*Sulphate of Quinia in Acute Articular Rheumatism.* By DR LANGE.

Dr. Lange has found large doses of sulphate of quinia extremely useful in acute articular rheumatism. He prescribes five grains of the sulphate with one grain of digitalis, to be taken four times daily. Sixteen doses were generally sufficient to effect a complete cure.—(*Deutsche Klinik*, 49, and *Foriep's Notizen*, ii. 4, 1860.)

XII.—*Tannin as Antidote to Strychnine.* By PROFESSOR KURZAK, of Vienna.

From want of a reliable antidote, the treatment in cases of poisoning by strychnine hitherto consisted principally in endeavoring to evacuate the poison, to combat the frightful spasmodic symptoms by narcotics, and to re-establish respiration, when it finally ceased, by artificial means. Donné proposed iodine, chlorine, and bromine as antidotes to strychnine; Garrod, Rand, Morson, and Falck recommended prepared animal charcoal; but the efficacy of these substances has been neither tested sufficiently by experiment nor proved by experience. The same is true in regard to tannin, and the astringent vegetables containing it, their infusions, decoctions, etc. Although they recommended themselves by the fact that tannin forms chemical compounds, insoluble in water, with strychnine and other poisonous alkaloids, it seemed very probable that these products might be redissolved in the stomach and intestines, and thus be rendered capable of absorption; the virtue of tannin as antidote to strychnine was, therefore, considered very doubtful.

With a view to subject this matter to a thorough examination, and to ascertain the efficacy of tannin in preventing and allaying the symptoms of poisoning by strychnine, Professor Kurzak made a series of experiments on rabbits and dogs. At the end of his interesting and highly important memoir, he states that the results of his investigation permit him to draw the following conclusions:—

1. *Tannin*, if administered in time, *is an* excellent *chemical antidote to strychnine.*

2. The doubt, whether the precipitate formed by tannin in a solution of strychnine, although insoluble in water, would not be redissolved by the gastric and

intestinal juice, and the strychnine thus reobtain its poisonous properties, is solved by these experiments on rabbits and dogs in a complete and highly gratifying manner.

3. The successful results in dogs and rabbits justify the expectation that *tannin would suspend the poisonous action of strychnine also in man,* even in cases where the evacuation of the tannate of strychnine, formed in the stomach, could not be accomplished.

4. These experiments show that *twenty to twenty-five times the quantity of tannin is required in order to suspend the poisonous action of strychnine.* In cases of poisoning it will be, however, advisable to administer a relatively larger proportion, as a part of the antidote will be absorbed by the usual contents of the stomach, particularly by gelatin.

5. As tannin has proved to be an antidote to nitrate of strychnia, which is much more soluble in water, there is so much greater reason to hope that it will be successful in poisoning by pure strychnia which dissolves in water with great difficulty.

6. *The same successful result* is to be expected from its administration in poisoning by the hard and tough *nux vomica,* which imparts the poison to aqueous fluids, but gradually and not very rapidly.

7. Tannin is a so much more valuable antidote in poisoning by strychnine, as *galls* in which it is contained can be readily procured, and thus be administered without much loss of time. They are easily reduced to a powder, which is given mixed with water. Another advantage is obtained by the vomiting which it is liable to produce. In the mean time, an *infusion* or *decoction* of powdered galls may be prepared.

On an average, Turkish galls contain fifty, the Illyrian galls twenty per cent. of tannin. At least one drachm of the former and two drachms and a half of the latter are therefore required to neutralize one grain of strychnine introduced into the stomach, but in general, especially if there is vomiting, a much larger quantity should be administered.

8. Another readily obtained substance containing tannin is *Chinese tea,* the efficacy of which, in poisoning by strychnine, is confirmed by our experiments. But these experiments (VII. and VIII.) have also shown that, in a decoction of tea-leaves, we cannot count upon the whole amount of tannin contained in them. In poisoning by a larger dose, it would therefore be necessary to administer so large an amount of green tea that the antidote itself might produce poisonous effects. One decigramme (1·3 grain) of nitrate of strychnine requires, as our experiments prove, ten drachms (600 grains, 40 teaspoonfuls) of green tea, which, according to Peligot's analysis, contain about fifteen grains of caffein. Tea is therefore applicable only in poisoning by smaller doses, but may otherwise be useful as adjuvant.

9. The efficacy of *roasted coffee* as chemical antidote to strychnine seemed to be much inferior. The amount of *caffeo-tannic acid* contained in coffee is, according to Payen, 3·5 to 5·0 per cent. But our experiments (IX., X., XI.) show that the decoction evidently contains a much smaller quantity of undecomposed tannic acid than this percentage would justify us in assuming. The decoction of 180 grains of roasted Cuba coffee (being adequate to 200 grains of

the raw coffee, which should contain at least six grains of tannic acid) produced, according to the ninth experiment, merely a delay and diminution of the poisonous effect of 0·13 grain of nitrate of strychnine. In the tenth and eleventh experiments, 300 grains of raw coffee, which weighed, after roasting, 267 and 264 grains, and should have contained at least nine grains of tannic acid, had furnished a decoction which, as antidote to 0·13 grain of strychnine, was nearly inert, only delaying the appearance of the symptoms for a little while.

10. From *unroasted coffee*, so inconsiderable an amount of tannin is extracted, by boiling, that the employment of its decoction for our purpose is out of question.

11. *Oak bark* (of Quercus robur and Q. pedunculata) contains, according to Gerber, 8·5 per cent. of tannic acid, and imparts it readily to aqueous fluids. It deserves attention in poisoning by strychnine so much the more, as it can be procured without much delay, especially in the country. What has been said about the administration of galls equally applies to the use of the powder and decoction of this bark.

12. On account of their frequent occurrence and the large amount of tannin they contain, we have to mention in this connection: *acorns* (from Quercus robur and Q. pedunculata) with 9 per cent., the *bark of the horse-chestnut* with 8 per cent., *willow bark* with 5½ per cent., and *the green hull of walnuts.* The *radix tormentillœ* (with 17 per cent.,) *rad. caryophyllatœ* (with 31 per cent.,) and *rad. bistortœ*, are still richer in tannin, but can rarely be procured without much loss of time.

13. The solubility of the precipitate, produced by tannin in a solution of strychnine, by *acetic*, *citric*, and *tartaric acid*, (vide experiments with the same,) show the necessity of avoiding vegetable acids during the treatment of poisoning by strychnine with tannic acid.

14. The same applies to the internal use of *alcohol* and *alcoholic remedies.*

15. The reported experiments on rabbits have sufficiently proved that more active voluntary movements excite the spasms usually produced by strychnia, even when they otherwise would not have made their appearance. In treating cases of poisoning by strychnine, *it is therefore highly important to prohibit as much as possible all voluntary movements, and to avoid violent excitement of any other kind.*—(*Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*, March 12, 1860.)

MEDICAL CHEMISTRY.

I.—*Mode of Estimating the Quantity of Albumen in Albuminous Fluids.*

By DR. C. BOEDEKER.

Dr. C. Boedeker recommends a solution of ferrocyanuret of potassium for the purpose of estimating the quantity of albumen contained in albuminous fluids. One cubic centimetre of a solution of 1·309 gramme of ferrocyanuret of potassium (2 KCy, FeCy + 3 HO) in 1000 C. C. of water corresponds exactly to 10 milligrammes of albumen. The albuminous solution which is to be tested must be in a diluted state and strongly acid, or must be rendered so by the addition of acetic acid. Dr. Boedeker considers this method useful in estimating the quantity of albumen contained in urine.—(*Henle and Pfeufer's Zeitschrift*, v., and *Vierteljahrscrift für Prakt. Heilkunde*, i. 1860.)

II.—*On the Composition of the Cerebral Substance.* By M. MULLER.

The cerebral substance of man contains a small quantity of creatine; this alkaloid is wanting in the brain of the ox; the author suspects that in the latter, leucine or one of its homologues is present.

But one of these substances, as well as the other, contains a large quantity of lactic acid and a small amount of fatty acids of the general formula $C^nH^nO^4$.

They contain neither creatinine nor urea, cystine, taurine, or succinic acid.

The brain of the ox contains, moreover, a small quantity of uric acid and a large proportion of inosit.

In the course of his researches, M. Müller has met with a substance not combined with phosphorus, which had much analogy with the cerebric acid of M. Frémy, but differed from it by its centesimal composition.—(*Ann. der Chemie und Pharm.*, ciii. p. 131, and *Journal de Pharmacie*, April 1, 1860.)

TOXICOLOGY AND LEGAL MEDICINE.

I.—*On Poisoning by Arsenic.* By DR. BLONDLOT.

Dr. Blondlot has communicated, in a paper to the Paris Academy of Sciences, a fact which may be highly valuable in cases of poisoning by arsenic. After numerous experiments, he has come to the conclusion that the slightest quantity of greasy matter in contact with arsenious acid will reduce its solubility to about one-twentieth of what it was before. This explains at once why, in certain judicial investigations, arsenic has been sought for in vain in the liquid portion of the food contained in the stomach, when the food partly consisted of fatty substances, such as broth, milk, etc. It likewise explains how arsenious acid, taken in powder, may sometimes have sojourned a long time in the stomach before it produced any deleterious effect, since in such cases its action was hindered by the presence of fatty substances. Jugglers have been seen swallowing arsenic with impunity, because, according to Dr. Blondlot, they had previously taken the precaution to drink milk and eat fat bacon. Hence it follows, that in cases of poisoning by arsenic, fatty substances may be administered as real antidotes, capable of suspending the action of the poison for a considerable time, until more radical means of effecting a cure can be applied.—(*Med. Times and Gazette,* February 11, 1860.)

II.—*On the Detection of Metallic Poisons by means of Electrolysis.*
By PROFESSOR BLOXAM.

At the last meeting of the Chemical Society, Professor Bloxam, of King's College, gave the result of a very successful investigation of this subject, and showed that, by proper refinement in the method of operating, the process of electrolysis may become a certain and delicate means of detecting one or all of the metallic poisons, at least with but few exceptions.

In an examination for arsenic by this method, the metal is obtained in the form of arseniuretted hydrogen; the process is therefore very similar to that of Marsh, over which, indeed, it does not present any advantage in point of delicacy. Marsh's process, however, although it is capable of doing all that can be done by electrolysis with even greater delicacy, is open to several well-known objections, which have stood in the way of its practical adoption by toxicologists. The process of electrolysis does not involve the use of zinc, which is so difficult to obtain pure. It forms a general method for the detection of several metallic poisons at once, and the material tested is not destroyed or inconveniently contaminated, but may be used for another operation. When the arsenic, on the other hand, is present in the state of arsenic acid, it cannot, according to Professor Bloxam's experiments, be detected with certainty by electrolysis. It is consequently necessary to reduce the arsenic acid by means of sulphurous acid. This is an objection which does not apply to Marsh's process. In his earlier experiments, Mr. Bloxam made use of a U-tube, containing dilute sulphuric acid; the substance to be tested was introduced into one of the limbs, and a cork with a bent tube fitted to its mouth; two platinum plates, leading from the poles of a battery containing five cells of Grove's, were introduced into the two limbs, and the liberated hydrogen passed through the bent tube, which was heated by a lamp, when the arsenic, if present, was deposited.

The form of the apparatus ultimately adopted as being the most convenient consists of a two or three ounce bottle, the bottom of which has been cut off and replaced by a piece of vegetable parchment bound on with platinum wire. To the mouth of the bottle is fitted a cork with a bent tube and a piece of platinum wire, which passes through the cork and turns up beneath in the form of a hook. A slip of platinum then hooks on the end of the wire, and passes nearly to the bottom of the bottle; it forms the negative pole of the arrangement. The bottle stands in an ordinary test-glass, and the positive pole, also of platinum, stands in the glass. Dilute sulphuric acid is put into the bottle and also the glass, so as to stand to the same height in both vessels. The substance to be tested is introduced into the bottle, the cork adjusted, and the wires connected with five cells of Grove's battery; the heat of a spirit-lamp is applied to the bent tube, and in the course of a quarter of an hour a distinct mirror is obtained if arsenic is present. Standard solutions, containing respectively a tenth, a hundredth, and a thousandth of a grain of arsenious acid, were prepared and examined by this process, and in every case a successful result was obtained. These solutions were then mixed with organic substances, such as the ordinary articles of food, meat, eggs, milk, etc., and the resulting matter examined. It was got into solution by means of chlorate of potash and hydrochloric acid, and the resulting fluid evaporated down, by means of a water bath, to a thick syrupy liquid. The arsenic was thus obtained in the state of arsenic acid, which does not give a certain result by the electrolytic process. Some sulphurous acid was therefore added, and the mixture introduced into the bottle, after expelling the excess of sulphurous acid by evaporation; a drachm of alcohol was then poured over the surfaces and the process put into operation.

The author prefers to add this drachm of alcohol in every case, inasmuch as it not only allays the frothing, but also affords an additional indication of the presence of arsenic; for, when these two substances are present—the alcohol and arsenic—the gas which escapes at the open end of the bent tube possesses a very peculiar odor, resembling alkarsin. If a little sulphurous acid be present, it also furnishes an additional character indicative of arsenic, namely, a slight yellow deposit, consisting of sulphide of arsenic, close to the borders of the metallic mirror. In all these experiments, of which a great number were made, the thousandth of a grain of arsenious acid was readily detected.

The other metals which may be detected by this process are mercury, antimony, copper, and bismuth; lead is precluded by the sulphuric acid which is present. These are all precipitated in the metallic form upon the slip of platinum; and even in the case of antimony a mere trace of antimoniuretted hydrogen is formed, the metal being all deposited upon the negative pole. The mode of proceeding in these cases is precisely similar to that adopted for arsenic. When the operation is concluded, the slip of platinum is detached, washed, and the deposit dissolved off and tested in the usual manner. Thus, where an organic mixture has to be examined for arsenic, mercury, antimony, copper, and bismuth, it is prepared in the manner just described for arsenic, and the resulting liquid introduced into the bottle, the drachm of alcohol poured over the surface of the contents, the cork adjusted, and the battery connected. The heat of a spirit-lamp is applied to the bent tube, and the operation continued for about a quarter of an hour or twenty minutes, when, if arsenic is present, a metallic deposit, accompanied by some crystals of arsenious acid, will be formed in the tube, and the escaping gas will have the alkarsin-like odor. The piece of platinum in the bottle is next removed, washed, and boiled in yellow sulphide of ammonium. Antimony would be dissolved and might be obtained as sulphide by evaporating this solution to dryness. The other metals would still remain on the plate. It is next boiled in nitric acid containing a trace of hydrochloric acid, the solution evaporated to a small bulk, and an excess of ammonia added. Oxide of bismuth would be precipitated, together with whatever traces of platinum had been dissolved. The precipitate may be dissolved in H Cl, and tested by pouring into water, etc. The ammoniacal filtrate would contain the copper, indicated by its blue color, and the mercury. By boiling with H Cl, and a slip of copper, the latter would be separated in the metallic form.

It will be seen, therefore, that this process of electrolysis admits of being very readily engrafted into the regular course of analysis, inasmuch as it affords an easy means of examining an organic mixture for all the ordinary metallic poisons without so far injuring or destroying the material as to preclude the employment of other tests.—(*Pharmaceutical Journal*, January, 1860, p. 376.)

III.—*On Poisoning by Strychnia.* By DR. SCHNEIDER.

The author gives the following report of a case of suicidal poisoning by strychnia:—

A young man, eighteen years of age, informed his mother that he had poisoned himself, and then went to bed. A short time afterwards violent convulsions took place, especially in the upper extremities; an emetic, some hot milk, white of egg, and an enema were administered without success, and for a quarter of an hour he seemed to suffer greatly. Death supervened in half an hour or three-quarters after the ingestion of the poison. Three or four hours after death the body was still hot, and muscular contractions were distinctly visible in the face, neck, and upper extremities.

Autopsy forty-eight hours after death.—Contraction of the fingers; rigidity of the toes; spinal region and extremities of a violet color; belly, penis, and scrotum, greenish; vessels of the cerebral envelope gorged with black blood; serous effusion under the arachnoid; ingestion of the substance of the brain, etc. The chemical analysis of the contents of the stomach verified the presence of the poison.

The author follows up this case by some remarks on the cases of poisoning by strychnia on record at present, seeking by this comparison to establish the characters of such poisoning.

He classifies—first, the convulsions and the tetanic symptoms, which indicate lesion of the spinal marrow; next, paralysis of the lungs and the state of asphyxia which supervenes on the spasmodic contractions; then the symptoms which point out gastro-intestinal inflammation, such as vomiting, a burning sensation in the throat, pain in the epigastrium, etc. Among the cadaveric signs are remarkable—first, the relaxation of the muscles immediately after death, then their general or partial rigidity, slow putrefaction, violet color of the skin, hyperæmia of the brain and spinal cord, lungs, and heart, with repletion of the venous system.—(*Deutsche Klinik*, and *Dublin Medical Press*, April 11, 1860.)

PATHOLOGICAL ANATOMY.

BY JOHN H. PACKARD, M.D., OF PHILADELPHIA.

I.—*Pathology of the Pituitary Body.* By Middleton Michel, M.D., of Charleston, S. C.

A negro carpenter, aged thirty-one, of robust frame and steady habits, was first affected with headache and weakness of sight in September, 1851. The headache became intermittent, the imperfection of sight progressed steadily; the eyes started forward, and his appearance was that of an amaurotic person. Ptosis, and an extreme degree of chemosis occurred soon after he came under Dr. Michel's care, in March, 1855. A severe attack of mental excitement came on about the end of April, but lasted only a few days. Soon after this a tumor appeared in the right temporal region, with deafness on that side; his smell was lost, and his taste perverted. Memory and the co-ordination of his muscular powers were evidently impaired. An obstinate diarrhœa of eleven days continuance carried him off in September, 1855.

An autopsy showed a tumor of the size, form, color, and consistence of a ripe blue fig, occupying the place of the pituitary body; a much larger mass, attached to this by a pedicle, extended outward to the right temporal fossa. The base of the skull was much disorganized. "The nerves were found but little influenced by the disease around them, and though not changed in structure, singularly reduced in size; among other circumstances noticed, the optic nerves were mere threads and pressed perfectly flat, the pons and the medulla oblongata were so far atrophied as not to exceed the little finger in size"

No satisfactory microscopic examination was made of this growth, but Dr. Michel regarded it as undoubtedly cancerous.

The case now sketched is made the basis of a paper on the pathology of the pituitary body. Atrophy has been observed in one instance by the author, and is mentioned by Morgagni, Wenzel, and others. Hypertrophy is believed by Lebert to be sometimes mistaken for degeneration; its occurrence is denied by Rokitansky, although Wepfer, Chaussier, and Rayer record instances of it. Inflammation of this organ, and cysts in connection with it, are described by Andral, Delasiauve, Zenker, and others. Adventitious deposits, sabulous and calcareous, have been observed by some. Cancer, in all its varieties, may affect the pituitary body; Dr. Michel's case was one of encephaloid, and for this as well as the other forms we have the authority of Vieussens, De Haen, Levêque-Lasource, Abercrombie, Vidal, and Rokitansky. The author concludes his paper with the following propositions:—

(1) "The pituitary body, however largely developed in some animals, is not a primary division of the brain, or a true encephalic ganglion, since its complete destruction is never accompanied by loss of intellection, motion or sensation, beyond what may be satisfactorily accounted for by the necessary pressure which the morbid growth exerts upon more essential parts of the encephalon.

(2) "From several of the morbid processes enumerated in this memoir, we have strong proof of the identity of the nature of this hypophysis with certain so-called vascular glands, such as the thyroid, thymus, spleen, and supra-renal capsules.

(3) "While the diagnosis of its morbid conditions is rendered somewhat obscure from the absence of any ascertained function of the part, yet their almost constant connection with the simultaneous production of amaurosis in both eyes, with absence of symptoms of cross paralysis, will indicate the seat of the disease, when compared to morbid states of either hemisphere.

(4) "The long continuance of disease in this situation may propagate inflammatory action to neighboring parts followed by apathy, somnolency, syncope, cophosis, and other symptoms obscuring the diagnosis."—(*Charleston Med. Jour. and Review*, March, 1860.)

II.—*Medullary Fungus of the Pineal Gland, with relatively trifling Phenomena during Life.*

A laborer, aged thirty-five, having been struck on the head with a hammer, became melancholy, and suffered from periodical headache; he then had some violent illness, in the course of which an abscess formed just below the right clavicle, and was twice opened, an enormous quantity of pus being let out each time. After his recovery, signs of cerebral disease appeared, chiefly incomplete general paralysis and mental confusion. Death took place eighteen months after the infliction of the blow upon the left temple.

"*Dissection twenty-four hours after death.*—The body in general presented no phenomena worthy of mention. After removing the galea aponeurotica, however, the bones of the skull, particularly the ossa bregmatis, exhibited an unusually dark color, tending to red. The dura mater was tolerably firmly adherent to the cranium. Its arteries and veins were, on the surface, very highly congested, and the blood, on opening the sinus, flowed out of a dark-red color. The convolutions of the hemisphere were much flattened and extremely dry (which gave them the appearance of wax casts,) without the slightest trace of serum between the arachnoid and pia mater; in the cavity of the spinal column, however, there was a very large quantity of spinal fluid, which washed the medulla oblongata; the glandulæ Pacchioni on the surface were not unusually developed. The pia mater was difficult of separation, particularly in the middle and superior part, but did not remove any laminæ of the brain with it. There was no trace of meningitis. The cortical substance, which everywhere presented a rather high color, particularly on the anterior lobe, under the os frontis, after washing with water, was somewhat more of a rose color than the other parts, while the white substance exhibited none of the well-known dots of blood. The cerebral vessels on the surface contained but little blood. On cutting down into the ventricles it appeared that the pia mater investing them was very much thickened, so that the white cerebral substance could easily be separated from it, and it required some pains to cut through it. On opening the right rather dilated ventricle, whence a considerable quantity of clear serum flowed, we came on a rather long vesicle, studded with some dark-brown vesicles, immediately under the fornix and great commissure, in the situation of the foramen of Monro, which here appeared to be largely dilated; the length of the vesicle, from before backward, was five and a half centimetres (a little more than two inches;) on the right side the corpus striatum and thalamus were apparently healthy, somewhat pushed to the side, the walls of the vesicle passed uninterruptedly into the walls of the ventricles, so that it appeared that the pia mater which lines these cavities internally also invested the vesicle.

"At the level of the great commissure the cerebral mass expanding over the left ventricle appeared to be much more swollen; the investing membrane was here much denser and thicker, and could not be torn without difficulty. On opening the ventricle much bloody serum escaped, contrasting with the right cavity, where the serum was clear. The cavity of the anterior left cornu was about as large as a duck-egg, and was filled with recent coagulated blood. It now appeared that the vesicles in the right cavity were connected with those in the left, as they were full before the opening of the left ventricle, but collapsed after it. About in the situation of the thalamus under the fornix was a bloody, yellow, soft substance, presenting the appearance of medullary fungus colored with blood. The vesicle in the right cavity was covered with a membrane composing the lateral wall of the septum lucidum and passing into the investing membrane of the ventricle; so that also anteriorly the wall of the vesicle passed into the investing membrane of the cornu anticum.

"The left ventricle was, as has already been mentioned, much more distended, owing to the presence of an abnormal, medullary body; it was partly filled with coagulated blood, which was also separately effused in several parts of the tissue; on the left side, the sac extended into the cornu posticum, to the commencement of the calcar avis, covered by an organized membrane; which again was connected with the walls of the ventricles, and was uninterruptedly continued into them; on accurate examination, after the brain had been a couple of days left to harden in spirit, it was seen, by lifting up the posterior portion of the corpus callosum, that the abnormal body was continued backward through the very dilated third ventricle, and here terminated, just in front of the corpora quadrigemina, which were more or less flattened, and that the tumor consisted of a degeneration of the pineal gland. This was reduced to a matter of certainty by the microscopic examination made by Professors Schrœder van der Kolk and Harting; thus in the tumor, even on a level with the corpora striata, the peculiar conglomerations were found constituting the so-called cerebral sand, which was here present in great quantity as mulberry-like granules, and is distinguished from the sand in the choroid plexuses, which latter always exhibits spherical globules. The choroid plexus in each ventricle was normal and was not connected with the tumor; the tumor itself appeared under the microscope to consist chiefly of granular cells the size of blood corpuscles, from which, however, they were plainly distinguished by their granular contents, their unequal and mostly oblong form, without any defined nucleus; these cells were everywhere, both on the surface of the investing membrane and within the tumor, exactly similar, and between them were capillary vessels arranged in a reticulated form, and connective tissue—nerve-fibres were not to be distinguished with certainty. Hence it follows that the tumor consisted of a cellular augmentation of the pineal gland, which must be regarded as medullary fungus with sanguineous effusion, and therefore also as fungus hæmatodes. The cerebellum was healthy, the posterior commissure was normal, the cavity in which the pineal gland is situated was, in this instance, invested as with a membrane, and the third ventricle was very wide, being dilated to twenty-six millimetres (a little more than an inch.) Above the corpora quadrigemina there was also coagulated blood, the corpora quadrigemina were somewhat flattened, the enlarged pineal gland thus seemed to have pushed forward, to have dilated the third ventricle to an extraordinary degree, and thus to have pressed into the anterior cornua of the lateral ventricles, particularly on the left side, without having produced any other degeneration of the brain than was caused by pressure and distention."

In this case there was no hemiplegia or complete paraplegia, because the corpora striata and the thalami were uninjured; no abnormity in the face, eyes, or pupils, because the tumor was above the corpora quadrigemina; no decided paralysis, because of the slow development of the morbid growth. Death was brought on by hemorrhage from the tumor into the left ventricle.—(Translated from the *Geneeskundige Courant*, [Dutch,] Dec. 25, 1859, for the *Dublin Med. Press*, March 28, 1860, by William D. Moore, M.B., etc.)

III.—*On Contraction and Obliteration of the Aorta near the Junction of the Ductus Arteriosus.* By THOMAS B. PEACOCK, M.D., etc.

In this very interesting paper, 40 published cases are given in abstract, and the following is the substance of the author's concluding remarks:—

In 29 of the cases, the stricture was at or below the point named; in 4, there were two strictures. The closure of the canal was complete in 10 cases, partial in the remaining 30. Dilatation and disease of the cardiac portion of the vessel existed in 10 cases, dilatation alone in 11.

The collateral circulation is carried on by means of the branches of the subclavian and of the aorta below the seat of constriction, on both sides. (1) The transversalis colli, coming from the thyroid axis, anastomoses by its posterior scapular branch with the posterior branches of the aortic intercostals. (2) The superior intercostal, coming from the subclavian, anastomoses with the anterior branches of the aortic intercostals. (3) The internal mammary, derived also directly from the subclavian, and the external thoracic, from the axillary, anastomoses with the anterior aortic intercostals, the external epigastric, etc.

Since, however, these channels are less free than the normal aorta would be, the heart is affected as in any other form of aortic obstruction. In 10 cases there was a moderate amount of hypertrophy and dilatation involving only or chiefly the left ventricle; in 18, the enlargement was general and extensive; in 2 only, the heart is said to have been quite healthy.

Of 38 cases in which the age is reported, 23 were between twenty-one and fifty years; the extremes were twenty-two days and ninety-two years. As to sex, 30 were males and 10 females.

Death was caused by the condition of the aorta in 8 cases, and probably in another where apoplexy was the assigned reason. In 11 cases the patients succumbed to diseases which were at least but indirectly connected with the obstruction; in 16, to cardiac asthma and dropsy, variously complicated.

The origin of the abnormity is probably congenital; but the theory of its production has been variously explained: (1) by the prolongation into the aorta of a thrombus formed in the closure of the ductus arteriosus; (2) by the propagation of the process of obliteration from the latter vessel to the former; (3) by defective development of the portions of the bronchial arches which form the continuation of the aorta from the origin of the left subclavian to below the entrance of the ductus arteriosus. This latter view would seem to be the correct one.

Cases sometimes occur in which the descending aorta is traversed only by blood derived from the pulmonary artery, its communication with the ascending portion and arch being cut off.—(*Brit. and For. Med.-Chirurg. Review*, April, 1860.)

[A tabular statement of the cases mentioned in Dr. Wilks's paper will be found in the abstracts relating to the "Practice of Medicine," by Dr. R. J. Dunglison.]

IV.—*Hydatid Tumor in the Apex of the Right Ventricle of the Heart.*

By DR. GEORGE BUDD.

A single woman, aged twenty-three, stout and florid, but troubled for several years with cough and dyspnœa, was admitted into King's College Hospital, December 23, 1857. Her feet were somewhat œdematous, and there was a systolic rasping sound over the base of the heart, which however disappeared in a few days, and was not heard again. She had several hemorrhages at various intervals, and occasionally complained of intense præcordial pain. Death, which took place on the 4th of May, 1858, was preceded by œdema of the legs, ascites, and great dyspnœa.

"*Post-mortem examination.*—Both lungs were found united to the pleura costalis by old adhesions. The pericardium contained about an ounce of serous fluid. Its layers posteriorly were glued together by tolerably old adhesions. The heart was of very irregular shape, flattened anteriorly and bulging posteriorly. Its irregular shape was owing to a hydatid tumor, about the size of an orange, situated in the apex of the right ventricle, and projecting into its cavity. The right auricle and ventricle were filled with clotted blood; the left chambers of the heart were healthy. There was no disease of the valves.

"Under one of the laminæ of the tricuspid valve, a small flaccid hydatid was found unattached. In the pulmonary artery, immediately above the valves, an unbroken hydatid, rather more than half an inch in diameter, was found; and in the further course of the artery, before its subdivision, there were several other smaller hydatids.

"On tracing the branches of the pulmonary artery, several clusters of hydatids, and the collapsed skins of hydatids—ranging from one-eighth to one-fourth of an inch in diameter—were discovered in them. These hydatids were exclusively confined to the left lung, and chiefly to the upper lobe, one small cluster only being found in the centre of the lung, and one in the lower lobe. These clusters of hydatids were enveloped in pale fibrin, but not contained in organized sacs. The lower lobes of both lungs were carnified, but still crepitated slightly under the fingers. The pulmonary veins and the bronchial tubes contained no hydatids.

"The abdominal organs and the brain, and the principal venous trunks of the lower extremities, were next carefully examined; but with the exception of slight fatty degeneration of the liver, some irregularity of the surface of the right kidney, and general venous congestion, nothing abnormal was detected.

"On examining one of the smaller hydatids taken from the pulmonary artery, I found it to contain very perfect echinococci.

"The hydatid tumor in the apex of the heart was stuffed with hydatids, and it was evident that the hydatids found in the right ventricle and in the pulmonary artery had escaped from it."—(*Transactions of Pathological Society of London*, vol. x. p. 80.)

V.—*Abscess in the Heart.*

M. Lancereaux recently presented to the *Société de Biologie* the heart of a young man, aged twenty-five, within the walls of which an abscess had developed itself. Continued fever, with very marked exacerbations, had set in toward the last, and as the patient had been subject to intermittent fever eight years previously, and his spleen was enlarged, sulphate of quinia was given, but without success; arsenic likewise failed. Auscultation disclosed a *bruit de souffle*, but no one suspected any organic disease. The autopsy showed a swelling, on a line with the valves, [it is not stated *which* valves,] as large as a filbert. When this tumor was cut into, a puruloid liquid escaped, which under the microscope exhibited blood corpuscles and pyoid bodies. These last were rounded and finely granular, but without well-formed nuclei. All the other organs were examined with care, but there was no evidence of any abscess, or of phlebitis.—(*Journal du Progrès*, April 13, 1860.)

VI.—*Hydatid Tumor and Abscess of the Liver.* By A. D. GULLAND, ESQ., M.D., Assistant Surgeon, Indian Army.

A powerful man, aged twenty-five, a gunner, temperate in his habits, was admitted to hospital on June 21st, 1859, with pleurisy of the left side. A painless enlargement of the hypochondriac and epigastric regions, which existed on his admission, increased steadily; on the 4th of July he had a good deal of retching and vomiting, followed by fever, which assumed a hectic type, and carried him off on the 8th.

At the autopsy, the abdomen presented the following appearances: "Liver pushed into the left hypochondrium, and projected several inches below the ensiform cartilage, by a large tumor, about the size and shape of a distended stomach, firmly adherent to its right lobe at its outer border, and occupying the right hypochondriac region. In removing the liver an abscess burst, discharging about a pint of very fetid blackish pus. Weight of the liver, with tumor attached, was ten pounds; without tumor, six pounds. No other adhesions of liver. Two abscesses found in the left lobe—one very large, the other small; and a third of considerable size, in the lobulus quadratus, filled with the same kind of fetid pus. The remaining portion of the left lobe was red and mottled; the right lobe of a grayish color; gall-bladder nearly empty. The tumor, when dissected from the liver, weighed four pounds. It proved to be a large hydatid sac, filled with numerous hydatids—upwards of two hundred—varying in size from a pea to a large orange. The majority of the contained cysts had burst, so that the containing cyst was partly filled with a quantity of thin membranous shreds floating in a liquid. The liquid in the unbroken cysts, of which there were sixty, was pure, transparent, and colorless. The coat of the containing sac was fibrous and thick." Other organs healthy.—(*Edinburgh Medical Journal*, March, 1860.)

VII.—*Rupture of the Spleen from a Trifling Cause.* This case was recently communicated to the Surgical Society of Ireland, by A. LEITH ADAMS, M.B., Surgeon to the 22d Regiment.

In October, 1853, a Sepoy, who was in hospital for intermittent fever, went on his well day to see a friend; but "when he had seated himself on the floor, cross-legged, (Oriental fashion,) he became suddenly faint, and expired before medical aid could be obtained. About half an hour elapsed between the first appearance of syncope and death." The man was greatly emaciated.

"When the abdomen was opened, a mass of coagulated blood, fully an inch in thickness, covered the anterior surface of the cavity, extending upward into the spleen, which, although shriveled and contracted, was still much enlarged. * * * On its lower surface there was a transverse fissure three inches in length, and nearly one inch in depth, to which the coagulum was attached. About a pint of serous fluid was found in the abdominal cavity. The substance of the spleen was very soft, almost pultaceous; the pancreas congested and enlarged;

the liver pale and anæmic, which was the general appearance of the whole body, with the exception of the above organs; it was as though his life-blood had been concentrated in the spleen and pancreas only. * * * * Every circumstance of the case tended to show that the rupture took place about the time he was seating himself, when the enlarged spleen was subjected to compression consequent on posture and the action of the abdominal muscles. I could imagine a like accident occurring when the patient is straining at stool."—(*Dublin Medical Press,* March 21, 1860.)

VIII.—*General Phlegmon of the Abdomen.* By M. PETITHAN.

This affection is rare, except as met with in the puerperal state; the following case is remarkable also from the extent to which the suppurative action took place.

A gunner, aged twenty, having alighted with great force upon the soles of his feet, sustained a severe shock, and great pain about the navel. Four days afterwards, symptoms of peritonitis were developed; the inflammation extended downward to the left testicle, in the coverings of which an abscess formed. Obscure fluctuation was perceptible over the abdomen, with pain, not very severe, but extending up to the left shoulder. On the ninth day the man died.

Upon post-mortem examination, all the cellular tissue around the viscera, beneath the peritoneum, and between the muscular layers of the abdominal walls, was found replaced by pus. The inflammation had extended to the scrotum and lower extremities by involving the tissue closing the different orifices. * * * * The psoas, iliacus, and quadratus lumborum muscles on each side, as well as the cortical substance of the kidneys, were somewhat broken down. It is singular that in the midst of such extensive mischief, the peritoneum bore only a very secondary part; there was no effusion into its cavity, but merely a few adhesions at the foramen of Winslow, and some scattered patches of redness.—(*Gaz. Hebdomadaire,* March 23, 1860, from *Arch. Belges de Méd. Milit.*, October, 1859.)

IX.—*Cases of Renal Abnormity.*

1. *Enormous Abscess of the Kidney.* By DR. JACOB HAYES, of Charlestown, Mass.—The patient, a man aged thirty-three, had the usual symptoms of typhoid fever; a large tumor developed itself in the abdomen, somewhat to the right side, and at the fifth week began to soften, with the constitutional indications of suppuration. In the seventh week, it was punctured, and two quarts of pus were evacuated. For two weeks the discharge was copious, but it then became less. Purulent expectoration was now observed, and in three weeks from the time of the operation the man died, exhausted. "At the post-mortem examination, a large quantity of pus was found in the cavity of the abdomen, and the intestines were glued together with soft lymph, showing recent peritoneal inflammation. All the abdominal organs were healthy except the right kidney, which, by its dilatation, formed the tumor; this consisting of a large sac with thin walls, containing pus, and evidently formed by an expansion of the kidney. The sac was nowhere adherent to the contiguous peritoneal surface. It extended upward to the diaphragm, which was perforated, allowing the pus to pass into the right

side of the chest. The right lung lay in contact with the spine, was entirely deprived of air, and quite friable. No communication with the pleural cavity was noticed[?], but attention was not directed to this point. The chest and abdomen contained six quarts of pus."—(*Boston Med. and Surg. Journal*, March 8, 1860.)

2. *Tumor of the Kidney, communicating with the Intestine.* By Dr. Cabot.—A married woman, aged thirty, felt a tumor as big as a walnut in the right iliac region, just after the birth of a still-born child. Three months after, the tumor had grown so as to extend up into the hypochondrium. Its upper part was firm, the lower fluctuating; it seemed attached above, but free below. Six weeks after this, the tumor became less, and pus was noticed in the alvine discharges. Œdema, severe pain in the back, and purulent diarrhœa, preceded death, which ensued about six weeks later.

Autopsy, by Dr. Ellis.—"The ascending colon, and that part of the small intestine just below the duodenum, adhered to a firm tumor, which lay in the right lumbar region. Two inches above the superior spinous process of the right ilium was an opening upon the anterior face of the tumor, from which pus issued. Above this, the abdominal parietes had evidently been slightly adherent, and were sufficiently eroded and discolored to show that the pus was seeking an outlet in that direction. Behind the tumor was a large collection of pus, which extended downward, beneath the lumbar and iliac muscles. One-half of the lower dorsal, and the whole of the upper lumbar vertebræ were denuded. On incision the remains of the kidney were found within the thickened tissues. The organ was of about the usual size, mostly occupied by cavities, the largest of which was an inch and a half in diameter. They were filled with thick pus. The parietes were of a dark-bluish slate color, and plicated. In that portion of the large intestine which adhered to the kidney was a small opening, through which a probe could be passed into one of the large cavities. A free communication was also established with the small intestine at the point designated; but here were two openings each half an inch in diameter. The mucous membrane of the part was of a grayish color. The remaining substance of the kidney, between the cavities, was firm, uniform, and grayish, but presented no appearance of the usual structure. Left kidney was large, yellowish and 'coarse.'" (*Ibid.*)

3. *Absence of the Bladder; Enlargement of the Pelvis of the Kidney.*—M. Schmidt states, in the *Jour. de Méd. de Bruxelles*, that a woman, aged thirty, died at the Central Hospital of the Grand Duchy of Luxembourg, who presented, on a post-mortem examination, a complete absence of the bladder. The right kidney was very large, and its pelvis so increased in size that it could contain four or five ounces of fluid. It had evidently performed the office of a bladder. It was terminated by a very long ureter, which opened at the meatus. The left kidney was quite atrophied, and seemed to be affected with tubercular degeneration. The woman had stated that she had suffered from incontinence of urine since her twelfth year—a circumstance which can hardly be credited, when the congenital defect is considered.—(*London Lancet*, March 31, 1860.)

Editors' Table.

The Laryngoscope.—M. Czermak, Professor of Physiology at Pesth, is at the present time in Paris, with the view of bringing into notice an instrument for exploring the interior of the larynx, and with which the vocal cords, the ventricles of the larynx, the rings and bifurcation of the trachea, and the Eustachian tubes, can be seen with the utmost facility. The laryngoscope may be said to be an English invention, for we read in Liston's "Practical Surgery," London edition, 1840, p. 417, under the head of ulcerated glottis: "A view of the parts may be sometimes obtained by means of a speculum—such a glass as is used by dentists—on a long stalk, previously dipped in hot water, introduced with its reflecting surface downward, and carried well into the fauces." It was not, however, until 1855, that this idea was acted upon, when Garcia, professor of music, made some valuable experiments to elucidate the physiology of the human voice, by causing the image of the larynx to be reflected from a mirror placed against the soft palate upon another mirror placed before him. Two years subsequently, Dr. Türck endeavored to apply the instrument to medical diagnosis, and to him and Dr. Czermak is due the merit of directing the attention of the profession to its use. Garcia and Dr. Türck employed the light of the sun in their experiments, but Prof. Czermak has made the instrument of greater utility by applying it by means of artificial light. The latter physician has, moreover, published a monograph on the subject.

The observer will at first be puzzled by the altered position of the parts in the reflected image, the component structures of the larynx being seen upside down; but the right side of the larynx is seen on the right of the instrument, and so of the left. The beginner had, therefore, better study an excised larynx, so as to accustom himself to the changed position of the parts. The mode of conducting the examination, writes the Berlin correspondent of the *Medical Times and Gazette*, May 5th, 1860, is as follows: "A metallic mirror, varying in size from six to fourteen lines in diameter, in shape either square with rounded edges, as recommened by Czermak, or oval, according to Türck's proposal, or, as it has been found very convenient by Dr. Levin, of Berlin, semi-circular, with a concave inferior margin, soldered to a slightly flexible metallic handle, is to be introduced into the well-opened mouth and fixed in such an angle against the uvula and soft palate as to throw incident luminous rays upon the larynx, and to reflect an image of the parts thus illuminated into the eye of the observer. To prevent the mirror becoming dim by condensation of vapor upon its surface, it is necessary to warm it previous to introduction by dipping it into hot water or holding the unpolished surface over the flame of a small spirit-lamp. Garcia made use of the direct rays of the sun in his experiments; as this source of illumination, however, is not always available, and, even if so, attended with obvious inconveniences in practice, Czermak proposes the use of a perforated concave mirror of 7-12″ focal distance, by which the light of an ordinary lamp can be concentrated upon the larynx-speculum, the eye of the observer being applied to the perforation. As the distinctness of the image will depend upon the brilliancy of the illumination employed, it will be found advantageous to concentrate the light of the lamp upon the concave mirror, by means of a powerful bi-convex lens. Dr. Levin, of this city, (Berlin,) has devised a highly convenient apparatus for this purpose, consisting of a tin tube carrying a convex lens of two and a half inches focal distance, and of about the same diameter, which, by means of a simple contrivance, can be fixed horizontally over an argand-lamp after the shade has been removed."

"The perforated concave reflector can either be held between the teeth of the observer, fixed on a suitable ivory handle, as recommended by Czermak, or attached to a large spectacle-frame, according to Stellwag's proposal, or it can be suspended from a support screwed to the corner of the table on which the lamp is placed. The latter contrivance will be found the most convenient for practical purposes."

"It will be most convenient to place the lamp to the right of the patient, who is to be examined in the sitting posture, his hands resting upon his knees, his body slightly advanced, and his head slightly reclining backward. According to Professor Traube's advice, the lamp, concave mirror, and larynx-speculum ought to be on the same level, and the angle formed by the rays incident upon and reflected from the concave mirror as acute as possible; on this account it will be wise to place the lamp a little behind the patient. The observer supports the head and chin of the patient with the left, and introduces the larynx-speculum with his right hand, looking through the perforation of the concave mirror, by means of which he illuminates the pharynx."

"By causing the patient to sound alternately the Roman vowels, a, e, the velum and uvula will be raised so as to admit of the mirror being introduced with greater facility. In pressing the speculum against the soft palate and uvula, great care must be taken to avoid touching the posterior wall of the pharynx, the palatine arches, and the base of the tongue, to prevent the supervention of vomiting and deglutition."

THE JAPANESE PHYSICIANS.—During the recent visit of the Japanese Embassy to this city, we had several opportunities of visiting the physicians, and elicited from them a slight amount of information in regard to the state of medicine in Yedo. Their knowledge has been in great part derived from the Dutch, and we are sorry to state that the physicians that we saw, and who may be taken as fair specimens of their class, did not strike us as having much acquaintance with any of the departments of medicine or surgery. The lateral operation of lithotomy, which they saw performed by the senior editor, was altogether unknown to them, but they stated that the high operation was performed in Japan, the practice of which was taught them by the Dutch. They were much interested in the administration and the effects of ether, and will take a supply of it with them on their return to their native country, with full directions as to its preparation. Amputation is not practiced by them, nor did they seem to know anything of the ligature as a means of arresting hemorrhage. They perform the ordinary operation for hare-lip, and we saw one of their servants who had been treated for this affection with perfect success. The operation of catheterism is familiar to them, and they employ the silver catheter and gum bougie. The trocar, which is somewhat different from our own, is used by them for tapping hydroceles and ascitic abdomens. They have no experience in the surgery of the eye, as in fact is the case with all the larger operations. They are perfectly conversant with the temporal, carotid, and radial pulse, and recognize the heart as the prime source of the circulation. Beyond this, the whole subject of the circulation is unknown to them, and we frequently saw a number of the servants, as well as the doctors, apply three or four small moxas to their legs in order to promote the free circulation of the blood. Vaccination was introduced into Japan about six years ago, and it was formerly the custom to insert the virus in the mucous membrane of the nose; but at the present time the operation is performed on the arm. The operations which they saw performed during their stay in this city were, amputation at the hip and of the forearm, by Professor Pancoast, and the lateral operation of lithotomy, by Professor Gross. In the latter case ether was administered by Dr. Morton, of Boston.

THE MIDDLE GEORGIA MEDICAL COLLEGE has been inaugurated at Griffin, Georgia, making the fourth medical school in that State.

THE NATIONAL CONVENTION FOR REVISING THE PHARMACOPŒIA OF THE UNITED STATES, held its fifth decennial meeting in Washington City, on the second of May, and was in session two days. The following gentlemen were elected permanent officers of the Association:—*President*, Dr. George B. Wood, of Philadelphia; *Vice-Presidents*, Dr. Jacob Bigelow, of Boston, and Dr. Edward Warren, of North Carolina; *Secretary*, Dr. Thos. Miller, of Washington; *Assistant Secretary*, Dr. John C. Riley, of Washington. The delegates of several medical societies and colleges of pharmacy presented reports toward a revision of the National Pharmacopœia, which were referred to a committee, with directions to report a plan for its revision and publication; the committee consisted of Drs. Bache, Miller, and Russell, and Messrs. Sharp and Parrish. From this committee Dr. Bache brought in a report comprising a series of resolutions, one of which was that there should be a committee of nine (Dr. Wood to be one) to revise and publish the Pharmacopœia; also, that three be a quorum, and that the place of meeting be in Philadelphia. This report was accepted, and the following committee appointed:—Dr. Franklin Bache, Dr. E. R. Squibb, Dr. T. C. Carney, Dr. G. B. Wood, Dr. H. T. Cumming, Dr. W. Procter, Mr. Jos. Carson, Mr. W. T. Thompson, and Mr. A. B. Taylor. To the Committee on Revision and Publication it was recommended that in the index to the Pharmacopœia the syllables of both Latin and English names be so divided and accented that the index may also serve as a pronouncing vocabulary to the Materia Medica. Various other subjects were discussed by the Convention, including that of the uniformity of weights and measures;

but our limited space prevents us giving a fuller abstract of its proceedings.

CHILDREN'S HOSPITAL OF PHILADELPHIA.—The Annual Report of this Institution shows that the number of children under treatment during the last year was 5019, 124 having been in-door cases. What a field for the study of infantile pathology and practice! The attending physicians of the hospital are, T. H. Bache, Francis W. Lewis, R. A. F. Penrose, and W. R. Dunton; the consulting physicians, William Pepper and J. Forsyth Meigs; and the consulting surgeon, George W. Norris.

THE KENTUCKY ASYLUM FOR FEEBLE-MINDED CHILDREN.—The Kentucky Legislature, emulating the older States in the extent and liberal endowments of its charities, has, by an act at its last session, established an asylum for feeble-minded children, upon the same basis as her lunatic hospitals. This is as it should be. There is no difference whatever in the ultimate objects of asylums for the idiotic and for the insane; requiring the same general principles for their guidance, the same professional skill for the successful management of their inmates, they ought to occupy the same medical position.

A man receives a blow upon the head, causing injury to the brain, and insanity follows; a child falls from its nurse's arms, receiving a like injury, and an arrest of development and idiocy result. If not identical, the closest relationship exists between them. The Institution is under the superintendence of Dr. James Rodman, who is eminently qualified to fill the post which has been intrusted to him.

PENNSYLVANIA TRAINING SCHOOL FOR FEEBLE-MINDED CHILDREN.—This Institution, now in the eighth year of its existence, is situated near Media, in Delaware County, close by the new West Chester Railroad, and is under the superintendence of Dr. Joseph Parrish, who has made this class of unfortunates an object of special study. The exhibition which he gave of some of his pupils a year since, before the Pennsylvania State Medical Society, at its meeting in this city, was one of deep interest, and well calculated to excite the sympathy and enlist the good feeling of every one present on the occasion. The new edifice recently erected for the accommodation of the children, is said to be highly commodious, with every possible facility and comfort that such an establishment ought to possess. The grounds are large, and afford ample opportunity for horticultural and agricultural employment. Provision has also been made for regular, systematic gymnastic exercises. Last winter the Legislature made a handsome appropriation for the benefit of the Institution, which may now be regarded as reposing upon a permanent basis. If our space permitted, we should be strongly disposed to publish, entire, the admirable report of Dr. Parrish, a document which does infinite credit alike to his heart and his understanding. We trust it may be extensively circulated among all classes of people.

ARMY MEDICAL SCHOOL.—The Royal Sanitary Commission has within the past three years produced many great reforms in the Medical Department of the British army, the last being the constitution of the New Army Medical School, at Chatham, as a distinct and independent institution. Its course of instruction will not supersede that at the different English Medical Schools, but will be of a practical nature, and devoted exclusively to the requirements of the military medical service. The senate of the school, in which is vested its government, is constituted of the following gentlemen :—Dr. T. B. Gibson, Director-General; J. R. Martin, Esq., Physician to the Council of India; J. R. Taylor, C.B., Inspector-General of Hospitals, and Principal Medical Officer at Fort Pitt, Chatham; T. Longmore, Esq., Deputy Inspector-General and Professor of Clinical and Military Surgery; C. Morehead, M.D., Professor of Clinical and Military Medicine; E. A. Parkes, M.D., Professor of Hygiene; W. Aitken, M.D., Professor of Pathology.

These appointments will doubtless give universal satisfaction to the medical profession of Great Britain, as all the professors are men of high reputation. The buildings are erected at Fort Pitt Hospital, and the first course of lectures will commence after the next examination for the Army Medical and India Medical Services.

THE UNIVERSITY OF PENNSYLVANIA.—The Chair of Medicine in this Institution, rendered vacant by the retirement of Professor Wood, was filled early in the past month by the appointment of Dr. William Pepper, of this city, well known to the profession as a distinguished practitioner and clinical lecturer.

NAVAL MEDICAL APPOINTMENTS.—The Naval Medical Board of Examiners adjourned in this city on the fifth of May, having recommended the following gentlemen for admission into the navy as Assistant Surgeons :—1. James E. Lindsay, of North Carolina; 2. Henry F. McSherry, of Virginia; 3. John J. Gibson, of Illinois; 4. Osborn S. Inglehart, of Maryland; 5. Samuel J. Jones, of Pennsylvania; 6. Robert R. Gibbes, of South Carolina; 7. Joseph W. Shively, of Ohio.

Assistant Surgeons Daniel B. Conrad, James Laws, Francis L. Galt, John S. Kitchen, Albert L. Gihon, John Vansant, Edward R. Denby, and William M. Page, were examined and found qualified for promotion.

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—The twelfth annual session of this body was held in this city, on the thirteenth of June, Dr. Condie, President, in the chair. The delegates, nearly one hundred in number, were welcomed to the city, in a brief address, by Dr. S. D. Gross, and the annual address by the retiring president was delivered, embracing, among other subjects, the importance of the operation of vaccination, and the necessity of preserving the purity of the vaccine virus. Among the interesting subjects presented on the first day, the following important preamble and resolutions, offered by Dr. Henry Hartshorne, were unanimously adopted :—

> *Whereas*, experience has shown that inebriety is in many instances a disease; the morbid craving for stimulants beyond control of the individual so long as opportunity for its indulgence exists; and whereas, for the suitable treatment and cure of this disease, accommodations are not to be found in any of our lunatic asylums or general hospitals; therefore,
>
> *Resolved*, That in the opinion of this Society, the establishment of an Asylum for Inebriates in the State of Pennsylvania is highly desirable and important.
>
> *Resolved*, That such modifications of existing laws as are necessary to make such an institution available by placing the persons of habitual inebriates under due limitations and control of proper authorities, are desirable, and should be urged upon our Legislature.

Reports of the Indiana, Perry, and Bradford County Medical Societies were read, and referred to the Committee on Publication, and Dr. Kennedy presented a report on Meteorology. Dr. Albert Day, Superintendent of the Washington Home, in Boston, addressed the Society on the subject of reformation of inebriates.

On the second day of the meeting, Dr. Gross read a paper on *Prostatorrhœa,* which will be found among our original contributions. Dr. Bell offered a long preamble, showing the necessity of improving the medical education of youth; and, after some discussion, resolutions relative to the best mode of enabling young students to acquire a fair knowledge of the different departments of Medicine, Surgery, and the accessory branches, were adopted. Resolutions were offered in relation to withholding all support from the professors and graduates of Female Medical Colleges, and it was settled that it would be improper, under the existing code of medical ethics, for any member of the Society to consult with female doctors.

On the third day a committee was appointed to petition the Legislature for the passage of a law more stringent in regard to the subject of criminal abortion; and the following gentlemen were elected officers for the ensuing year:—*President,* Dr. Edward Wallace, of Berks County; *Vice-Presidents,* Dr. John Bell, of Philadelphia, Dr. G. W. Allison, of Beaver, Dr. J. H. Landis, of Blair, and Dr. G. W. Lott, of Columbia County; *Corresponding Secretary,* Dr. James Carson, of Philadelphia; *Recording Secretaries,* Dr. J. T. Carpenter, of Schuylkill, and Dr. J. H. Smaltz, of Philadelphia. The Censors, Committee of Publication, and Delegates to the American Medical Association, having been appointed, the President elect was led to the chair, and made a brief address.

The Society then adjourned to meet at Pittsburg, on the second Wednesday in June, 1861. During the session of the Society its members were entertained by Dr. Atlee, and by Dr. Kirkbride, at the Pennsylvania Hospital for the Insane, and by Dr. Worthington, at the Frankford Insane Asylum.

MEDICAL JOURNALS.—We have received the first two numbers of the *Gazeta Medica do Porto,* a monthly periodical of medicine, surgery, pharmacy, and the accessory sciences, edited by Dr. José Fructuoso Ayres de Gouvêa Osorio. It is intended to represent the existing state of medical science in Portugal, and Dr. de Gouvêa Osorio has associated with him an able corps of collaborators in the persons of the different professors of the Medico-Chirurgical College of Porto.

Another monthly journal, we believe the fifth, has recently made its appearance in Georgia, under the title of the *Georgia Medical and Surgical Encyclopedia,* the May and June numbers of which are on our table. It is edited by Dr. H. N. Hollifield and Dr. Tom W. Newsome.

The *American Medical Times* is the title of a new weekly journal, the successor of the "New York Journal of Medicine," the first number of which was issued on the second of June of this year. It resembles in appearance very much the *Medical Times and Gazette* of London, and each number will consist of twenty-four quarto pages. Dr. Stephen Smith, so long and so honorably associated with the medical press, will retain the position of editor, and be assisted by Drs. Elisha Harris and G. F. Shrady. We wish the journal much success, and gladly place it upon our exchange list.

With the March issue, the *Peninsular and Independent Medical Journal* of Michigan ceased its existence, on account of the want of support from the profession of that State. Its editors, Drs. Palmer and Gunn, have long been connected with medical journalism, and we regret to find that we have lost them from our ranks.

Dr. McCormick has retired from the editorial chair of the *Pacific Medical and Surgical Journal;* and Dr. J. S. Wilson has become corresponding editor of the *Savannah Journal of Medicine.*

DR. E. BROWN-SÉQUARD has been appointed chief physician to the "National Hospital for the Paralyzed and Epileptic," a new charity recently established in London. He has already commenced a course of clinical lectures on the diagnosis and treatment of the principal forms of paralysis of the lower extremities, and will prove an ornament to the profession of the British metropolis. The publication of the *Journal de Physiologie* will not be affected by his removal, but will appear as heretofore in Paris, having been placed under the direction of M. Balbiani.

MEMORIAL TO JOHN HUNTER.—It is well known to our readers that a monument is about to be erected in Westminster Abbey to the memory of John Hunter, and the question may therefore be very properly asked, whether it would not be well for the physicians of this country to offer their co-operation to their British brethren in carrying out so laudable and worthy an object. Such a mark of courtesy would tend to encourage good feeling between the United States and England, and would, we doubt not, as in the case of Jenner, be promptly and cordially accepted. Besides, it would afford us an opportunity, on this side of the Atlantic, of acknowledging, in a somewhat substantial manner, our gratitude for the great and inestimable services conferred upon us by the writings and genius of the immortal man for whom the memorial is designed. Several of the State Medical Societies, as well as the American Medical Association, have already taken action in this matter, and we trust that Pennsylvania will not be slow in seconding their efforts. A subscription of one dollar for each physician would probably be a proper sum.

PHYSIOLOGY.—Our esteemed collaborator, Dr. R. J. DUNGLISON, has in press an elementary work on physiology, adapted to the use of colleges, academies, and schools, which will embrace the applications of descriptive anatomy, microscopy, and organic chemistry, to the elucidation of the various subjects of which it will treat. From the well-known qualifications of the author, we feel confident that he will execute his labors in an able manner, and that the work will be admirably suited to the purposes for which it is intended.

DINNER TO DR. GEORGE B. WOOD.—A complimentary dinner was given, on the sixth of May, to Dr. Wood, at the Academy of Music, at which a large number of his professional friends and admirers were present. The object of this mark of respect was to testify the regard in which he is held as a gentleman, and the estimate placed upon him as a distinguished teacher and author.

THE AMERICAN MEDICAL ASSOCIATION.—The thirteenth annual session of this body was held at New Haven on the fifth, sixth, and seventh of June, Dr. Henry Miller presiding, who, on the first day, delivered his valedictory address, which embraced, among other topics, the important one of medical education. The following gentlemen were then elected officers for the ensuing year: *President*, Dr. Eli Ives, of Connecticut; *Vice-Presidents*, Drs. Wilson Jewell, of Pennsylvania, A. B. Palmer, of Michigan, J. P. Logan, of Georgia, and J. N. McDowell of Missouri. *Treasurer*, Dr. Caspar Wistar, of Pennsylvania. On taking his seat, the President made a short address; and, on account of his advanced years, the duty of presiding over the deliberations of the Association devolved upon Dr. Jewell, who executed his task in an admirable manner.

On the second and third days much time was occupied with the discussion of medical education, and a number of resolutions were adopted recommending medical schools to prolong their courses, and institute new chairs. The Committee on Prize Essays reported that they had received no paper worthy of an award. The special committees appointed to report this year on various surgical and medical topics presented, as usual, but few papers, the great majority being either laid over, discharged, or reporting progress; and all the communications were referred to their proper sections. The usual number of standing and special committees were appointed to report on various subjects at the next meeting; and a committee was constituted to collect subscriptions of not more than one dollar each from every regularly educated physician, in aid of the memorial to John Hunter.

Nearly five hundred delegates were present; and the Association was handsomely entertained by the citizens of New Haven. The next meeting will be held in Chicago, on the first Tuesday in June. We regret that our limited space compels us to make so short an abstract of its proceedings.

THE CONVENTION OF SUPERINTENDENTS OF HOSPITALS FOR THE INSANE was in session in this city during the last week of May. Thirty-two actual members were present, as well as a number by invitation, and many interesting papers on subjects appertaining to insane asylums were read.

A NEW MEDICAL COLLEGE, composed of ten professorships, is announced at Leavenworth City, Kansas Territory.

TO CORRESPONDENTS.—Communications have been received from Drs. Bell, Armor, and Don José de la Luz Hernandez.

NECROLOGICAL NOTICES.

MR. JAMES BRAID, of Manchester, whose name has of late been so much connected with the subject of hypnotic anæsthesia, died on the twenty-fifth of March, in the sixty-fifth year of his age, of an affection of the heart. In 1842 he investigated very fully and fairly the phenomena produced by animal magnetism and mesmerism, and proved that there was no such thing as animal magnetism, but grouped these phenomena under the terms, hypnotism, neuro-hypnotism, or nervous sleep. He was the author of several works on "Nervous Sleep," "Trance," and "Electro-Biology," which appeared between the years 1843 and 1852; and in 1855 he issued his "Observations on the Nature and Treatment of certain Forms of Paralysis." He also contributed many articles to medical periodicals, and some of his treatises have been translated into the German and French languages.

DR. JOHN LIZARS.—It is with deep regret that we are called upon to chronicle the decease of this distinguished gentleman, one of the first surgeons that Scotland has ever produced. On Sunday, the twentieth of May, Dr. Lizars lay down, complaining of being wearied, but symptoms of compression of the brain soon ensued, and he died early the following evening. In our next issue we will present our readers with a brief sketch of his long and well-spent life.

PROFESSOR GUISLAU, author of several works on the physiology and diseases of the nervous system, and the Director of the Ghent Asylum, died recently of strangulated hernia, for which an operation had been performed. He bequeathed fifty thousand francs to the civil charities of Gand, and his library and pictures to the Insane Asylum. By royal decree, his bust in marble will be placed in the hall of the Academy of Medicine.

ANDREAS RETZIUS, Professor of Anatomy and Physiology in the Royal Caroline Institute of Stockholm, expired, after a short illness, on the 18th of April, in the sixty-fourth year of his age. Sweden has suffered in his death an irreparable loss, as an original investigator and a man of high scientific attainments. He was a forcible lecturer, always commanding the attention of his classes, and a very voluminous author, the titles of his scientific works alone filling three pages of the Biographical Dictionary.

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THE

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

SEPTEMBER, 1860.

Analytical and Critical Reviews.

Art. I.—*The Diseases of the Ear; their Nature, Diagnosis, and Treatment.* By Joseph Toynbee, F.R.S., etc. etc. etc. With One Hundred Engravings on Wood. 8vo., pp. 440. Philadelphia: Blanchard & Lea, 1860.

The work of Mr. Toynbee comprises, within a comparatively small compass, the most valuable practical treatise on the diseases of the ear that the English language can boast of; a work, in fact, which, whether we regard the originality of its matter, the purity of its style, the systematic order of its topics, or the beauty and variety of its illustration, is alike creditable to the author and the profession of Great Britain. The American publishers, who have issued the work *pari passu* with the European edition, deserve the highest praise for their efforts to reproduce the treatise in every way commensurate with its intrinsic merits and the artistic requirements of the age. Messrs. Blanchard & Lea have never issued any work in more excellent taste. The volume is destined to create a sensation on this side of the Atlantic, and will be universally regarded as a worthy successor to the admirable treatise on Aural Surgery by Mr. Wilde, of Dublin, republished by the same distinguished firm six years ago.

There is no man in the "wide, wide world" who has made the diseases of the ear a subject of such profound and long-continued study as Mr. Toynbee, and the result is that he has produced a work which will occupy for ages to come the foremost rank in this department of pathology and practice. For nearly a quarter of a century he has been almost incessantly devoted to the subject, having performed, during this period, an immense number of dissections of diseased ears, treated thousands of cases, embracing all classes of affections, and published upwards of fifty papers, all founded upon personal observations. Never, since the commencement of the profession, was there a man more thoroughly prepared, by previous investigation and elaborate study, for the task of writing a lasting monograph upon any subject. In addition to his long-continued researches, of themselves sufficient to inspire his reader with the most profound confidence in whatever may emanate from such a writer, Mr. Toynbee has lectured for a number of years on aural surgery in the Medical School at St. Mary's Hospital, and has been connected with several establishments as aural surgeon, thus affording him immense opportunities for the observation and study of the maladies and accidents under consideration.

Every one acquainted with the history of aural surgery must be sensible of the extraordinary neglect in which it is generally held by the profession. Even in Great Britain, where medicine is cultivated with so much ardor and success, and where aural science has in late years achieved its greatest triumphs, it would appear that the practice of this department of the healing art is still very much in the hands of the empirics; and in this country our ignorance of the nature and treatment of the diseases of the ear is absolutely proverbial. Nothing, indeed, proves so clearly the low condition of the science of the aurist in the United States as the fact that all our light upon the subject is derived from foreign sources, no native work, founded upon original observation, having yet appeared in relation thereto. Even our periodical literature, so rich in valuable material upon almost every other topic, rarely furnishes anything of interest in regard to the affections of this important organ. For such neglect, which might almost be regarded as criminal, there is, unfortunately, no adequate excuse. It is true, the maladies of the ear are, in comparison with those of some other parts of the body, rather rare; still they are sufficiently common to render them objects of the deepest interest, and hence it should be the duty of every enlightened practitioner to make himself familiar with their nature and management. In fact, his education should not be considered as complete without such knowledge. In our larger towns and cities more especially, where, from the denseness and variety of the population, all classes of aural affections are of daily occurrence, a want of opportunity for observation can certainly not be urged in defense of our ignorance and neglect of one of the most useful and noble studies that can possibly engage the human mind. On the contrary, there is every reason that can be presented on the plea of humanity and science why they should be properly investigated, and the results of our experience be communicated to the profession. From the want of attention to the subject, thousands of persons annually become deaf and wretched simply because the medical attendant fails to make himself acquainted with the nature and treatment of their diseases.

No doubt, one reason of this supineness and ignorance of our practitioners is the intrinsic difficulty of the subject, growing out of the complicated structure of the ear, and the great depth at which this organ is situated; or, in other words, the trouble and loss of time involved in its examination when invaded by disease or assaulted by injury. It is questionable whether any other part of the body, in a morbid condition, demands so much patience and skill for the detection and successful removal of its various maladies as this. Besides, it is well known that the patient himself often opposes to the practitioner serious obstacles toward a successful cure of his case. This remark applies not merely to children, but also, and perhaps even in a greater degree, to grown persons, who too frequently, as our own experience tells us, throw aside the most scientific and skillful treatment under a supposition, which no argument or reasoning can satisfy, that it will not be productive of any ulterior benefit. Doubtless, however, the main cause of this supineness and shameful neglect is the fact that the diseases of the ear meet with so little attention in the lecture-room and in our systematic treatises on surgery. In most of the schools of the present day, certainly in those of this country, aural diseases are either wholly neglected, or they receive the merest passing notice from the teacher. The consequence is that the young graduate, upon setting out in practice, is totally unfit for the treatment of this particular class of affections, and that the cases which fall under his observation are either slighted by him, or, what is perhaps still more lamentable, that they fall into the hands of unscrupulous and designing quacks, bent not upon the patient's cure, but upon a large fee.

We believe it may safely be asserted that there is not, at this time, in this country, a solitary institution conducted upon scientific principles, devoted exclusively, or even in a considerable degree, to the treatment of aural diseases. There is not, so far as we know, a single ward or bed set apart for this object in any of the hospitals in the United States. We have eye-infirmaries, and even eye-wards, in abundance; but nowhere any conveniences for the study and treatment of the affections of the ear, considered as a specialty. What a pity that there could not be some deaf Girard, or Astor, or Lawrence, or McDonogh to found ear-infirmaries in every city of this great Confederacy! What a pity that there could not be such a man at the head of our government as Louis Napoleon, to institute lectureships on aural medicine and surgery in our schools! Republicanism needs, in all matters of science and education, the decision, the independence, and the spurs of a monarchy; the will and the energy of one head.

The history of acoustic surgery was, until recently, a history of the grossest acoustic charlatanry. To recount it would only be to condemn it. Its traces extend back to the earliest records of the healing art, but in these traces we discover only the most profound ignorance. How, indeed, could it have been otherwise? As the ancients were ignorant of the anatomy of the ear, and of diseased structure in general, it would be unreasonable to suppose that they had any substantial or consistent notions respecting its lesions. The knowledge of Hippocrates, Galen, Celsus, Oribasius, Alexander, Aurelianus, Avicenna, Albucasis, Haly Abbas, and other early writers hardly extended beyond that of an ordinary ear-ache. Avenzoar treated otitis with the oil of eggs; and for the cure of chronic noises, Paul of Ægina recommends the use of the syringe with a solution of nitre, vinegar, and honey—fit emblems of the practice of many a charlatan of our own day!

Ambrose Paré, in his immortal work on surgery, speaks of various affections of the ear; among others, of foreign bodies, and of the proper method of extracting them; of tumors, ulcers, preternatural closure of the meatus, the causes of deafness, and the means of meeting the loss of the concha. He also gives a figure of an artificial ear. It is clear, however, from his writings, that his knowledge of the subject was lamentably limited and imperfect; and the same, in fact, is true of all succeeding writers down to a comparatively recent period.

One of the earliest works on aural surgery in the English language was that of Mr. John Cunningham Saunders, of London, issued in 1806, under the title of the "Anatomy and Diseases of the Ear." It was a small monograph, written by a man of science, and by one who had evidently a very respectable practical acquaintance with aural affections. The book, which was chiefly valuable on account of the beautiful delineations of some of the more important diseases of the ear, was soon after reprinted in this city, with notes and additions by Dr. William Price, then one of the surgeons of the Pennsylvania Hospital.

In 1817 appeared the essay of John Harrison Curtis, a shallow, miserable performance, known chiefly by its high-sounding title, and by its having been copied, in great measure, from the treatise of Mr. Saunders. The work was evidently written as an advertisement for business; a practice which is not yet altogether extinct among our British brethren, as we see now and then exemplified in the baser productions of the present day.

Remarks similar to the above are applicable to the work of William Wright, which appeared almost simultaneously with that of Curtis. Devoid of science, it was patronized more by the public than the profession, who regarded its author only as another charlatan so common in every large city.

From this criticism we must exempt the treatise of Mr. Thomas Buchanan, published in 1825, as it evidently possessed some claim to scientific consideration, the author being a surgeon of excellent repute at Hull. The book, however, was an exceedingly small and jejune affair, and exerted no particular influence in awakening the attention of the profession to the study of the diseases and injuries of the ear.

The above works constitute, with the exception of some detached papers in various periodicals, nearly all that had been written on aural surgery in Great Britain up to 1838, when the darkened horizon of this department of the healing art began to show some glimmering of light, mainly through the labors of Mr. George Pilcher, as embodied in his "Treatise on the Structure, Economy, and Diseases of the Ear." It was brought out under the sanction of the Medical Society of London, which awarded to it the Fothergillian Gold Medal, and may justly be regarded as the first attempt, on the part of a British writer, to produce a really scientific work on the diseases of the ear. Besides some original observations, Mr. Pilcher, it would seem, availed himself freely of the contributions of his professional brethren in various parts of the world, especially of those of Dr. W. Kramer, of Berlin, whose able treatise was admirably translated in 1837 by Dr. P. R. Bennett of London. As this work has long been familiar to the American reader, through a Philadelphia reprint in 1843, of the second English edition, it would be needless to consume any further time upon it.

In 1840, Mr. Williams published a "Treatise on the Ear, including its Anatomy, Physiology, and Pathology," for which the author obtained a gold medal in the University of Edinburgh. In 1841, Mr. T. Wharton Jones contributed a highly valuable article on the ear to the Cyclopedia of Practical Surgery, edited by Dr. Costello. Three years after this appeared the little work of Mr. Dutton, of Birmingham, entitled "The Nature and Treatment of Deafness and Diseases of the Ear, and of the Treatment of the Deaf and Dumb." It was speedily republished in this country, and may be considered as a fair outline of aural diseases.

In this enumeration of British writers on the surgery of the ear, we have purposely avoided any reference to the works of Mr. Harvey and Mr. Yearsley, as well as the various papers of Mr. Toynbee, amounting, as we have already seen, to upwards of fifty; because the first are of a questionable character in a scientific point of view, and because the contributions of our author are now incorporated in the admirable treatise before us. Nor is it necessary to make any formal mention of the work of Mr. Wilde, of Dublin, since, through its republication in this country and its translation into some of the languages of Europe, it has earned for its author a world-wide reputation. It was the precursor of a new era in aural science, not merely for Great Britain, but for the world at large. It has put to the blush the effrontery of the charlatan, and thoroughly aroused the attention of the profession to a long-neglected but most important study.

In France there has been no lack of original works on the diseases of the ear. Not to mention particularly the treatise of Duverney, issued in 1683, too early to be of any special scientific value, there are, besides the monographs of Desmonceaux, of Alard and others, published in the latter part of the eighteenth and the beginning of the nineteenth centuries, the magnificent volumes of J. M. G. Itard, issued at Paris in 1821, and marking a new era in French surgical literature. Far from being a mere compilation, the volumes are everywhere enriched by the author's personal observation and experience, the whole constituting a production hitherto without a rival in Gallic aural science, pathology and practice.

The excellent but now almost obsolete essay of M. Saissy first appeared in 1819, as an article in the French Dictionary of the Medical Sciences. It was subsequently remodeled and much improved by its author; and, after his death, a new edition of it was issued by M. Montain, with notes by Dr. Perrin. A translation of Saissy's treatise, with a supplement on the diseases of the external ear, was presented to the American medical profession by Professor N. R. Smith. Of the work of M. Deleau, "Recherches Pratiques sur les Maladies de l'Oreille," the first part of which was issued in 1838, it is only necessary to remark that it is one of the best resumés of aural surgery of the present day in the French language.

In Germany, the most important works on this subject are those of Krukenberg, Ettmüller, Meiner, Rosenthal, Beck, Kramer, Linke, Schmalz, and Frank. Of these the treatise of Kramer, of Berlin, is the best known to English and American scholars, chiefly through the translation of Dr. Bennett, republished in this city soon after its appearance in London. A new and enlarged edition of this work was issued by its distinguished author in 1849. Dr. Charles G. Linke's "Handbuch der Theoretischen und Praktischen Ohrenheilkunde" appeared at Leipsic in 1837 and 1840, in two large octavo volumes: the first, which is illustrated by numerous lithographic plates, comprising an account of the healthy anatomy, physiology, and morbid anatomy of the ear; and the second, of its various malformations and diseases. The monographs of Schmalz, of Dresden, and of Frank, of Würzburg, which are among the latest productions of the German press on this subject, possess very little originality, although they afford the advantage of exhibiting a tolerably full digest of the state of aural surgery and medicine at the period of their publication. The treatise of Schmalz had reached its third edition in 1844; an evidence of its high appreciation among our German brethren.

Of the Italian literature on this subject very little is known in this country, beyond the fact that it is very scanty and unsatisfactory. Excepting some detached papers in medical journals and a few meagre monographs, hardly worthy of mention, nothing has emanated from the press of the land of Scarpa and the great school of which he was for upwards of a quarter of a century the acknowledged head.

America has not yet produced any great work on aural surgery. In 1851, Dr. James Bryan, of this city, published "A Treatise on the Anatomy, Physiology, and Diseases of the Ear," which, as far as we know, is the only attempt to enlighten the profession of this country by one of its own members upon the subject under consideration. The work partakes very much of the character of a compilation, yet it is due to the author to say that it embraces a good deal of original matter, and that it exhibits a clear and well written digest of the existing state of the science of aural medicine and surgery up to the time of its publication. As a safe compend, in fact, it is well worthy of the attention of medical practitioners. Of reprints we have already mentioned those of Kramer, Pilcher, Saissy, Dutton, Williams, and Wilde, the last of which should occupy a conspicuous place in every American medical library.

From this rapid survey of the history of acoustic surgery, it will be perceived that there is rather a dearth than a superabundance of great works upon the subject; or, at all events, that their number is much smaller than in most of the other subdivisions or specialties of the healing art. It is, therefore, with peculiar pleasure that we hail the appearance of the work of Mr. Toynbee, convinced that it will exert a most happy and pervasive influence upon this department of surgical science, not only in Great Britain, the country of its nativity, but also among the author's brethren in the United States, where the book has already taken out its naturalization papers. Written, as before intimated, in a style at once classical and attractive, it discusses the subject of aural surgery and medicine in all its branches and ramifications, and with a degree of *directness* and *assurance* well calculated to secure the confidence and good feeling of the reader; circumstances of no ordinary consideration and importance in a scientific treatise.

The treatise of our author opens with an "Introduction," comprising a brief account of the neglect of the study of the pathological anatomy of the ear, the causes of our ignorance of aural surgery, and the mode of dissecting the ear and of investigating its diseases.

Passing by what Mr. Toynbee says regarding the first three of these points, we are disposed to dwell for a moment upon the latter, as the formation of a correct diagnosis is here, as everywhere else, a matter of paramount importance to the establishment of a rational therapeutics. The mode of investigating the diseases of the ear embraces the following considerations: I. The age and occupation of the patient. II. The state of health, temperament, condition of the pulse, and digestive organs. III. An inquiry into the hereditary character of the disease, or, in other words, as to whether any of the patient's relatives are deaf. IV. The history of the affection; its duration and supposed cause; its former and present symptoms, with an account of the amount of audition; and, finally, the circumstances, mental, corporeal, dietetic, and atmospheric, which tend to aggravate the disease. V. The result of the examination: first, as to the distance at which the ticking of a watch is heard; secondly, the quantity and condition of the cerumen, and the state of the dermis and osseous shell of the meatus; thirdly, the condition of the tympanic membrane, as to whether it is dull or shining, transparent or opake, or more or less concave, along with the state of the "triangular bright spot;" fourthly, the condition of the Eustachian tube, in regard to the perception of sound in the tympanic cavity during deglutition, or during a forcible attempt at expiration, with the nose and mouth in each closed; and, finally, the condition of the mucous membrane of the fauces. VI. The effects of previous treatment. VII. Diagnosis.

Conducting the examination in this systematic manner, the time occupied need not exceed fifteen or twenty minutes; while the result, as far as concerns the diagnosis, must generally be most satisfactory. The author lays particular stress upon the mode of using the watch in these investigations, stating that the surgeon should inform himself as to the distance at which it is usually heard by persons whose hearing power is supposed to be perfect, and that it should be gradually brought toward the ear instead of being withdrawn from it.

In the second chapter, the author, after some anatomical considerations, treats, at some length, of the injuries, malformations, and diseases of the external ear.

The most frequent *malformations* of this portion of the auditory apparatus are, first, an entire absence of the auricle, of which several examples have been recorded by Meckel, Fritelli, Overteuffer, and other observers. In a case which fell under the notice of the late Professor Samuel Cooper, of the London University, and which is narrated at length in his Dictionary of Surgery, the deficiency existed on both sides without any vestige whatever of the external meatus, this passage being completely covered by a prolongation of the common integuments. Notwithstanding this, however, the child could distinguish sounds tolerably well. Secondly, there is occasionally a total absence of the lobule, or this structure may be divided by a fissure into an anterior and posterior portion; or, it may be attached, either partially or wholly, to the side of the head. Thirdly, a deficiency of the helix is sometimes observed, the part being perhaps so small and flat as hardly to deserve to be considered as a distinct process Fourthly, the tragus and ante-tragus are sometimes malformed; they each may be separated into two portions; or they may be inverted, or drawn permanently inward toward the meatus, thereby partially occluding that tube; or they may be more or less extensively united, particularly at their inferior borders, producing, in effect, a similar obstruction. Fifthly, an enormous enlargement, or unseemly hypertrophy, of the outer ear may be enumerated as another malformation, though its occurrence is uncommon.

The most important malformations of the *auditory meatus* are inordinate contraction of this passage; closure of the outer opening by an extension of the common integuments, resembling an imperforate anus; and, lastly, total absence of the tube. In the latter variety, of which some very interesting examples are narrated by different writers, and of which several cases have been noticed by the reviewer, the abnormity usually coexists with a deficiency of the whole organ, the absence of the outer ear being, apparently, only a part of the general non-development.

It occasionally happens that infants are born with the meatus completely filled with the slimy, caseous matter, which so often covers the general surface, and which is probably derived either from the sebaceous follicles, as a defensive secretion, or from the amniotic liquor. However this may be, if the matter be allowed to remain for any length of time it will almost be sure to cause inflammation, sometimes so severe and extensive as to eventuate finally in deafness.

Instances of *supernumerary ears* are sometimes met with, but they are uncommon. Cassebohm, an old author, relates the case of a child with four ears, situated one above the other, and accompanied each by two temporal bones. In 1858, the reviewer saw at the Clinic of the Jefferson College, under the charge of Professor Gross, an example of four ears, two in the natural situation, and the others, which existed in a very rudimentary state, immediately in front of the tragus, over the temporo-maxillary joint. The redundant parts were removed by excision. Occasionally the supernumerary organs occupy the side of the neck.

The external ear is subject to ordinary *inflammation*, erysipelas, and various cutaneous eruptions; but as these are not peculiar to this region, and do not, therefore, require any peculiar treatment, no further mention of them need be made here.

A very curious form of tumor of the external ear has lately been described, termed by some *hæmatoma*, and by others hæmatocele, and supposed at one time, but erroneously, to be peculiar to insane persons. It consists, as the name implies, in an accumulation of blood in the subcutaneous cellular subtance, between the skin and fibro-cartilage, and is generally caused by external injury, as a blow or fall. The deformity produced by its presence is often quite marked. If the blood is allowed to remain, it speedily coagulates, and is capable afterwards of provoking inflammation. The proper treatment consists in the use of evaporating and sorbefacient lotions, aided, if the case be obstinate, by puncture and gentle pressure.

Scirrhus of the external ear is exceedingly rare. Kramer details the particulars of a case of this kind; and a very interesting one came under the notice of the writer some years ago, in a man upwards of fifty, who eventually perished from the effects of the disease.

A *fibro-cartilaginous* growth is now and then seen in the lobule of the ear; its causes are unknown, and it is extremely prone to return after removal, however carefully performed. The writer has met with several cases of it, and he has reason to believe that it is more common in negroes than in white persons, and in females than in males. Boring of the ears, and the wearing of rings probably, at times, excites the disease.

Our author speaks of *gouty deposits* as being not unfrequent in the external ear. We do not remember ever to have met with an example of the kind in our practice, and therefore infer that it is more common in Great Britain than in the United States.

Chapter third is devoted to a consideration of the anatomy and mode of exploration of the *external meatus*. Passing by the former of these topics as possessing little of practical interest, we proceed to offer some remarks upon the latter, as being one with which every aurist should be perfectly familiar.

Three points should claim our attention in the exploration of the auditory passage: first, the effacement of as much as possible of the curve of the meatus; secondly, the slight dilatation of the outer membranous and cartilaginous portion; and, lastly, the free introduction of light. The first two of these objects are best accomplished with the speculum; but the meatus may also be straightened by pressing the tragus forward and pulling the outer ear backward; and we have, in our own hands, generally found this method to answer exceedingly well, although it is certainly not equal to the instrumental inspection. The best light is that of the sun, thrown into the parts in such a manner as to illuminate very thoroughly the tympanic membrane and the whole visible surface of the meatus. In cloudy weather and at night, artificial light may be used, as afforded either by the lamp of Segalas or that of Miller. The former is very simple, but as it can only be used with gas, not so convenient. Miller's lamp, originally suggested by Dr. Chowne, consists of a wax taper, inclosed in a Palmer's spring tube, six inches in length, and provided with a reflector, the apparatus being so arranged as to stand upon a pedestal when not in requisition.

In addition to a suitable lamp, an *aural speculum* is necessary, and the one preferred by our author is of oval shape, as originally described by him in the *London Lancet* for August, 1850, and now in pretty general use in England. The expanded portion of the instrument is somewhat flattened, the flattening being at right angles with that of the smaller extremity, thus adapting it more accurately to the object for which it is intended. Every surgeon should supply himself with from three to four sizes of these tubes. Mr. Toynbee thinks that this form of speculum is decidedly superior to the round, invented by Gruber, and generally, but erroneously, known on this side of the water as the speculum of Mr. Wilde, through whose agency it was first generally introduced into practice. For our own part, we are satisfied that the instrument so long in use among us, and figured in most of the systematic treatises on surgery, is quite equal, if indeed not superior to any other contrivance, that of our author not excepted. Perhaps the only objection to it is that it is not quite so portable.

In conducting the examination, the patient is to be seated as nearly as possible on a level with the surgeon, who, holding the lamp in one hand, should feel and inspect the external ear and orifice of the meatus without the aid of the speculum.

> "Having done this, a speculum adapted to the size of the meatus is to be taken in hand, and introduced into the orifice of the meatus, care being taken that the long diameter of each coincides. If the speculum enters very easily, and there appears to be room for a larger one, the next size should be selected, and the orifice fully dilated; for in all cases, the larger the speculum used the greater will be the quantity of luminous rays entering the tube, and the more complete the view of the meatus and membrana tympani. The speculum having been introduced, is to be pressed slightly backward, for the reasons I have mentioned, and then, by means of the lamp in the other hand, the rays of light are to be directed successively on the several walls of the meatus and on the membrana tympani. The size of the different parts of the tube, the quantity, color, and position of the cerumen, if present, should be noted; if absent, the state of the part of the tube in which it naturally exists, and the degree of vascularity of the dermis lining the inner half of the meatus.
>
> "A considerable degree of care is required in the examination of the meatus in the infant and child. The total absence of the osseous meatus in the former, and its very limited size in the latter, should always be borne in mind, or the surgeon, when he introduces the speculum, is apt to press upon the membrana

tympani. In many cases it is necessary only to open the orifice of the meatus, when the membrana tympani is at once seen without the introduction of the speculum any further."

In chapter fourth is comprised an account of foreign bodies and of collections of cerumen in the external meatus; two topics discussed with the author's usual ability and practical tact.

It is a singular fact that a *foreign body* in the meatus will occasionally give rise to coughing and even vomiting, which obstinately persist so long as the exciting cause remains in operation. These effects are due, as Mr. Toynbee supposes, and doubtless correctly, to irritation of the auricular branch of the pneumogastric nerve. He refers to two cases, in one of which, under his own care, a patient suffered under an obstinate cough which was promptly relieved by the extraction of a piece of dead bone from the meatus; and in the other, related by Arnold, where a child, affected with chronic vomiting which long resisted all medical means, was effectually cured by freeing each ear of a bean.

For the removal of all rounded solid bodies the author prefers, as does in fact every one else, the syringe and warm water, the fluid being thrown in with some degree of force from a large instrument with a rather long, slender nozzle. Wool, cotton, tobacco, leaves, paper-pellets, and similar articles are frequently more easily extracted with the forceps, or blunt hooks. Insects getting into the meatus sometimes occasion great distress. In general, the use of the syringe, or, if that be not obtainable, the introduction of a little warm water, affords instant relief. The employment of instruments for picking out foreign bodies is often fraught with danger, especially in the hands of ignorant practitioners, from the tendency which the effort has to push the substance farther inward toward the tympanic membrane, which is sometimes severely contused, lacerated, or inflamed in consequence.

The author very properly cautions against interference in the case of foreign bodies when the ear is in a state of inflammation, whether from the lodgment of the substance upon the tympanic membrane or previous attempts at extraction. The appropriate remedies under such circumstances are leeches and fomentations, with purgatives and anodynes.

The remarks on the accumulation of *cerumen* are elaborate and full of practical suggestions, but want of space compels us to pass them by with a few brief comments. The causes of this affection, says Mr. Toynbee, are two: the one depending upon disease of the ceruminous glands; the other, upon secondary and sympathetic disorder of the deeper seated structures, as debility of the auditory nerve, thickening of the tympanic membrane, anchylosis of the stapes, or obstruction of the Eustachian tube. The probability of such a complication may be pretty certainly inferred if, after a collection of this kind has been removed, the hearing power is not wholly, or in a great degree, restored. The causes occasioning such obstruction, not complicated with the affections here enumerated, are: unusual narrowness of the meatus, the effects of cold, the introduction of dust, and the practice of inserting the finger or point of the towel into the ear, thereby pushing the wax farther down. It is obvious that the causes of these various kinds of obstruction should always be carefully inquired into, and, if possible, rectified.

"*The symptoms* of an accumulation of cerumen are: sudden deafness, often following a cold by which the dermis is tumefied; bathing or the introduction of water into the ear. This deafness is often better in the morning; is increased by the movements of the jaw during mastication; and often disappears as suddenly as it came, with a cracking sound in the ear. The cause of the sudden appearance and disappearance of the deafness is the movement of the mass of cerumen: when it is so placed as to allow sonorous vibrations to pass between it and the wall of the meatus, the hearing returns; but when it again comes in contact with the meatus, the deafness recurs. Oftentimes a feeling of fullness in the ear is complained of; not unfrequently there is singing and giddiness, and sometimes considerable pain."

As an accumulation of ear-wax, especially if large and long retained, must always be a source of mischief, besides occasioning more or less deafness, it becomes an object of paramount importance in every case to effect its early removal. The best and most efficient means for accomplishing this is the syringe and warm water, which will always thoroughly dislodge even the hardest masses, though the operation sometimes requires to be several times repeated before the object is fully attained. The syringe recommended by the author holds three ounces and a half, and is furnished with two rings, so that it may be held firmly in the right hand, and leave the left at liberty to hold the ear, which should be drawn well backward in order to straighten the tube. If the wax be very hard, a weak alkaline solution may be employed to soften it before recourse is had to the syringe. Finally, the injurious effects of accumulations of this kind are illustrated by several very interesting and instructive cases from the author's practice.

The fifth chapter is occupied with a discussion of the "Dermis and its Diseases," or the various forms of acute and chronic inflammation of the external meatus, technically known as *otitis*. The ordinary effects of the former affection are resolution, discharge of serum, pus or mucus, or ulceration; of the latter, different secretions, polypoid growths, or caries of the petrous portion of the temporal bone. Each of these topics is treated with great ability, and illustrated by instructive cases. It is well known that the different forms of otitis may extend to the brain, giving rise to softening and suppurations of the cerebral tissues, and deposits of serum, lymph, and pus in the arachnoid sac in the vicinity of the ear.

Such occurrences are most liable to show themselves in chronic otitis in scrofulous subjects, and in persons of a broken-up constitution, laboring under marked disorder of the general health. Hence, such affections require the closest vigilance on the part of the practitioner, and yet it is melancholy to think how much they are generally neglected. When the brain or its membranes are threatened, the proper treatment is, of course, leeching and blistering, with other revulsive remedies, and the usual general antiphlogistic means. No chronic discharge of the ear should ever be disregarded. The idea that the disease upon which it depends will gradually disappear of its own accord, or that the patient, to use a vulgar and unmeaning expression, will gradually "out grow it," can not be too severely reprehended. No conscientious or intelligent surgeon will ever act upon such a principle; he knows it to be wholly false, and that it has been the cause of an immense amount of deafness and also of the loss of many lives.

Polyps, or polypoid growths, are not unfrequently met with in the ear, being generally the result of long-continued irritation of the dermoid layer of the meatus, to the surface of which they are usually attached, sometimes by a narrow pedicle, at other times by a broad base. Mr. Toynbee mentions that these bodies occasionally take their origin in chronic inflammation of the mucuous membrane of the tympanum, or in obstruction of the Eustachian tube. The latter occurrence can of course happen only when the closure of the tube leads to chronic disease in the meatus or in the tympanic lining or cavity, in both of which latter situations the author has observed the morbid products in question.

Polyps of the ear are always attended with discharge, usually more or less profuse and persistent, and at times, if not generally, excessively offensive. Some degree of deafness is commonly present; the patient often complains of dizziness and confusion in the head, and the suffering is always increased in damp states of the atmosphere. A careful inspection never fails to determine the nature of the affection, even in its earlier stages.

The author divides these growths into three classes: the raspberry cellular polyp, the fibro-gelatinous polyp, and the globular cellular polyp. Of these, the first is the most frequent, and is so called because the numerous round heads of which it consists, and which are attached by small filaments to a central stem, give its surface somewhat the appearance of that of a raspberry. It is very soft, friable, vascular, and of a deep-red color, varying in volume from that of a mustard-seed to that of a body so large as to fill up the whole meatus, beyond which it sometimes projects. A more suitable name for this polyp than the one given it by the author, would be vascular or granular.

The fibro-gelatinous polyp resembles, in its general appearance, the gelatinous polyp of the nose. It may attain the size of the last joint of the thumb, and is generally attached to the meatus by a single narrow root, while its body, which is generally somewhat globular, is often studded with several offsets or younger growths. It is of a white jelly-like hue, and is essentially composed of a cellulo-fibrous structure, interspersed with watery fluid.

The globular cellular polyp was first described by Mr. Toynbee, who considers it as essentially different from the preceding. It is usually of small size, of a deep-red color, softer than the ordinary polyp, globular in shape, and perfectly smooth on the surface. Confined to the inner fourth or sixth of the meatus, to the upper part of which it is commonly attached, it hangs down like a curtain, wholly or partially concealing the tympanic membrane, and occurs chiefly in children or growing persons; its distinguishing characters being founded upon its deep-red appearance, its situation, and the nature of the accompanying discharge, which always contains flocculi of mucus, like small particles of thread.

The treatment of these several classes of tumors varies. For the destruction of the raspberry polyp, our author prefers the use of the lever-ring forceps, an instrument devised by himself; or where this is inapplicable, the use of the potassa cum calce, or Vienna paste. The various astringent remedies he considers as entirely inefficient, both in preventing growth and in diminishing discharge. For the removal of the fibro-gelatinous polyp the best resource is extraction, escharotics exercising no beneficial impression upon its peculiar texture. A small pair of ring forceps is the most suitable instrument for the operation. The treatment of the globular cellular polyp is very simple, the growth being usually readily destroyed by the persevering employment for a week or a fortnight of some astringent lotion, as a solution of acetate of lead, zinc, alum, or tannin; a few drops of the fluid being poured into the meatus several times a day, and a slight discharge, meanwhile, maintained over the mastoid process, with a view to the prevention of congestion in the middle ear.

Mr. Toynbee speaks of osseous and molluscous tumors of the external meatus; their occurrence, however, is extremely rare, and they need not therefore detain us here. Of the molluscous growth of the ear, Mr. Toynbee states that he has several specimens in his museum, and he illustrates his description with some beautiful drawings. The morbid mass sometimes extends to the brain, causing death.

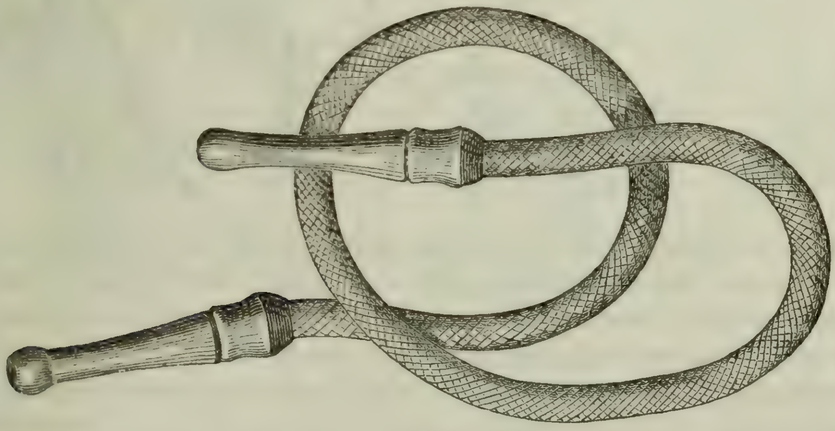
Chapter eighth comprises an admirable account of the structure and functions of the *tympanic membrane*, based essentially upon the author's personal observations, and accompanied by a large number of original drawings, executed in exquisite style. The next chapter treats of the diseases of this membrane, discussing successively its epidermoid, dermoid, and fibrous layers, the consideration of the mucous lining being postponed till the affections of the tympanic cavity come under review. Although replete with the most valuable information, interspersed with instructive cases and splendid wood-cuts, the want of space compels us to forego the pleasure of offering any comments. We cannot, however, avoid giving the subjoined extract in reference to relaxation of the fibrous laminæ of the tympanic membrane, comprising, as it does, a most excellent account of this rare disease, in an exceedingly small compass:—

> "The *causes* of this disease are: first, the effects of an ordinary cold, producing hypertrophy of the mucous layer; second, inflammation of the fibrous layers. From either of these causes, the membrana tympani may lose its natural degree of resiliency and become flaccid so as to fall inward, and approach more nearly to the promontory than is natural—a change which ends in great dullness of hearing. This dullness may, however, be temporarily relieved by pressing out the drum to its natural position, either by swallowing with closed nostrils, by attempting a forcible expiration, or by forcibly and rapidly inhaling air through the nose. No sooner, however, is the act of swallowing in the natural way repeated, than the air escapes from the tympanic cavity, the membrana tympani falls inward, and the dullness immediately returns. The *treatment* depends in a measure upon the cause of the affection. If the mucous membrane lining the tympanum be thickened, counter-irritation over the mastoid process should be practiced; if the fibrous laminæ are inflamed, leeches should be applied to the margin of the meatus. Where the fibrous laminæ are weakened, a solution of the nitrate of silver applied to the outer surface of the membrane is frequently of great service. There are cases where the deafness is not in the least degree relieved by forcing air into the tympanic cavity: when this happens, it is most probable that partial anchylosis of the stapes has taken place."

Perforation of the tympanic membrane from ulceration and other affections, and the use of an artificial substitute, are the principal topics discussed in chapter tenth. The most common cause of this accident is scarlet fever, but it is also frequently produced by strumous disease; and the invariable result is a diminution of the hearing power, the degree of the impairment depending upon the size of the opening. Such an affection, however induced, is necessarily incurable; but it is consolatory to know that the deafness occasioned by it often admits of great relief, as was shown long ago by Itard and Deleau, and more recently by Todd, Yearsley, and the author of the work before us. The treatment originally employed consisted in the introduction into the bottom of the meatus of soft lint and cotton-wool, gently moistened with water. Deleau had a patient who was greatly benefited by wearing, in this way, the central piece of an onion. The cotton-wool, however, is the article usually preferred, and the improvement from its use is frequently most striking; but, in order to insure its success, the substance should be kept continually moist, otherwise it will cease to become a conductor of sound.

After various researches upon the function of hearing, the results of which were communicated to the Royal Society, and the performance of experiments upon persons deaf from perforation of the tympanic membrane, Mr. Toynbee came to the conclusion that an artificial membrane might be constructed that would answer the purpose of the natural tympanic membrane much better than cotton-wool or linen; and the substance upon which he finally settled is a piece of vulcanized india-rubber, about three-quarters of an inch in diameter, interposed between two very fine plates of silver, not more than three-fourths of a line in diameter, a silver wire of sufficient length being attached to the outer one to admit of the easy introduction and withdrawal of the apparatus. "The artificial membrane is of the greatest benefit in those cases in which there is a well-defined aperture in the natural membrane, or where, that structure being entirely absent, there is simple hypertrophy of the mucous membrane of the tympanum, with or without discharge from its surface." The author adds that he has employed it advantageously in many hundred cases. He very properly cautions against its premature use, or before the complete disappearance of the inflammation causing the perforation. The artificial membrane should be carefully cut to the size and shape of the natural, and should at first be worn only a few hours a day, and that not in contact with the remnants of the tympanic membrane, lest its pressure should serve as a source of irritation. In all cases the apparatus should be removed at night, and if there be any discharge, the parts should be freely syringed morning and evening.

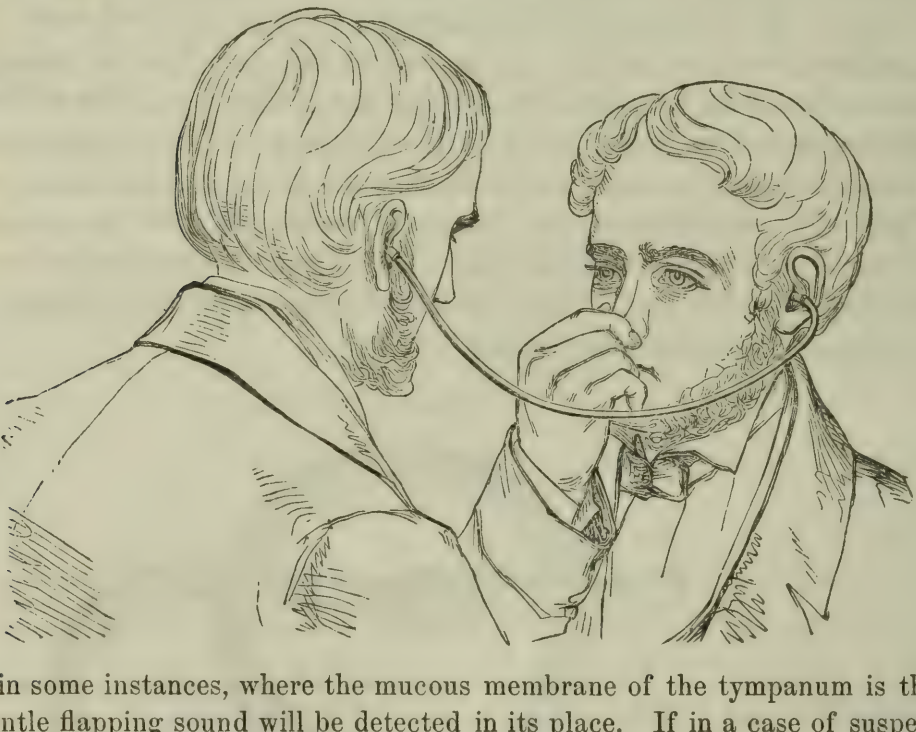
FIG. 1.



In chapter eleventh, the author, after having discussed the anatomy of the *Eustachian tube*, proceeds to speak of its various lesions, in the course of which he describes the proper method of exploring this canal, with the aid of a contrivance of his own, originally pointed out by him in a paper read before the Medico-Chirurgical Society of London as early as 1853; his investigations having been prompted by the fact that he had found the Eustachian catheter, held in such high esteem by Kramer and some other aurists, in great measure, if not wholly, useless as a means of diagnosis. This contrivance he calls the *otoscope*, (*Fig.* 1.) It consists of an elastic tube about eighteen inches long, each end of which is tipped with ivory or ebony. The manner of using the instrument is thus described by the author:—

> "One end of it is to be inserted into the ear of the patient, and the other into that of the medical man, who must take care that no portion of the tube touches any neighboring body. When the patient swallows a little saliva, the mouth and nose being closed, if the Eustachian tube be pervious, at the moment that he feels a sensation of fullness in the ear, the surgeon will hear most distinctly a faint crackling sound, produced apparently by a slight movement of the membrana tympani. This crackling sound is that most usually heard; but in some instances, where the mucous membrane of the tympanum is thick, a gentle flapping sound will be detected in its place. If in a case of suspected obstruction of the Eustachian tube, the otoscope fail to reveal any sound during the act of deglutition; if no sound be heard when the patient makes a forcible attempt at expiration with the mouth and nose tightly closed; and if the history of the case, the symptoms and appearances, agree with those already laid down as appertaining to obstruction of the Eustachian tube, I think the surgeon is justified in affirming that the tube is obstructed, and has no need of the use of the Eustachian catheter."

FIG. 2.



In regard to the Eustachian catheter, at one time so much in vogue, and still employed by certain surgeons, the author thinks that its use is very limited, being restricted chiefly to the examination of the tube, and the inflation of air, and he prefers altogether what he calls the *explorer*, (*Fig.* 3,) a contrivance of his own, consisting of an elastic tube, a foot and a half long, one end of which has a flat mouth-piece of ivory, with a few deep notches in it, while the other is provided with a small steel nozzle, adapted to the further extremity of the catheter, which is not quite as large as an ordinary crow-quill. The catheter having been inserted into the Eustachian tube in the usual way, the surgeon holds it with the left hand, and places one end in his mouth, and the other in the catheter, grasping it also with the left hand. "With his right hand thus at liberty, the surgeon is now to take the *otoscope* and introduce one end of it into the ear of the patient, who may hold it there, the other end being held by the surgeon in his own ear; or the tube may be made so tight as to remain

FIG. 3.

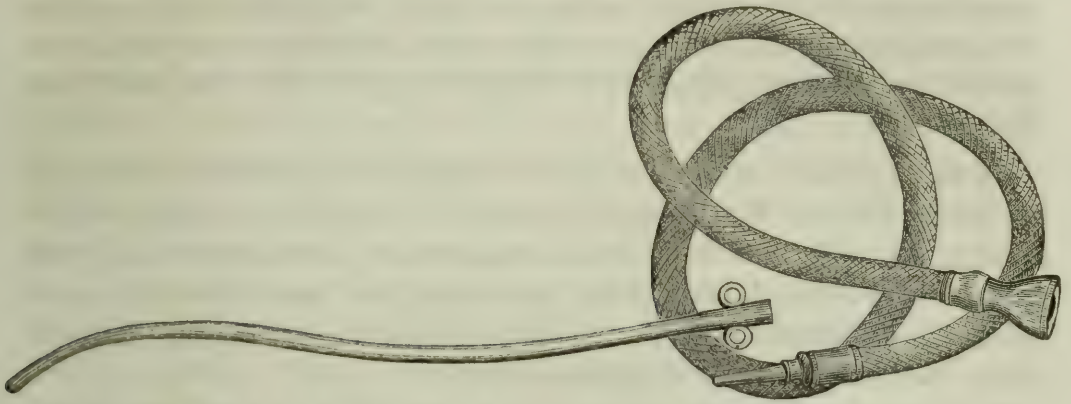
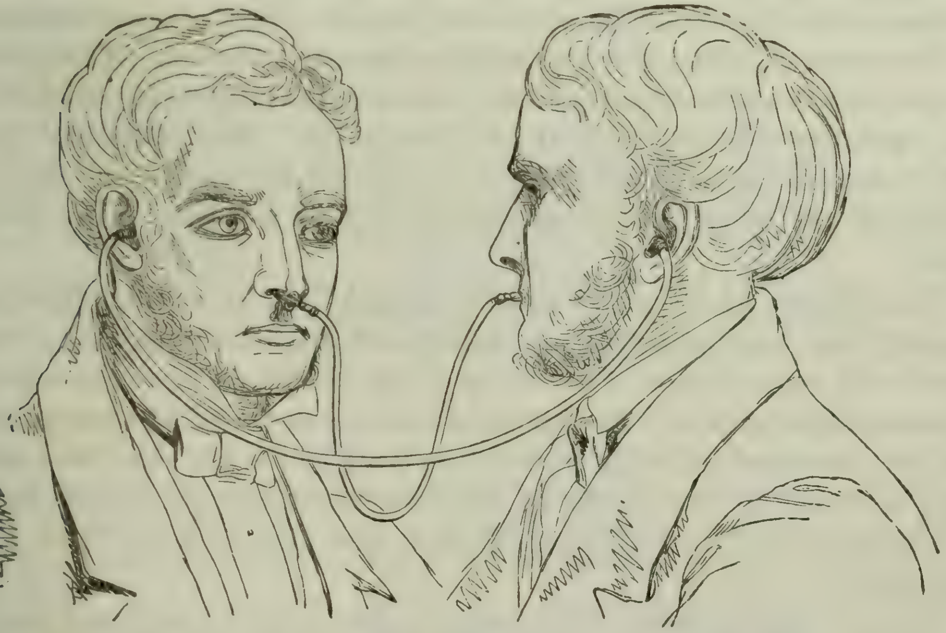


FIG. 4.



there without being held, leaving the operator's right hand still free." See *Fig.* 4.

> "The medical man next proceeds to blow air gently through the explorer, at the same time that he listens through the otoscope to ascertain whether the air enters the ear, and if it does, what is the peculiar sound it produces. When the tympanum is unobstructed by mucus, the air is heard to pass in a stream against the inner surface of the membrana tympani, but when mucus is present, a peculiar gurgling is heard; and if the mucous membrane itself is thickened, a peculiar squeak or bubbling is also perceptible. It is not advisable to blow with force into the ear, but rather to make a few gentle successive puffs, attentively listening during each, to detect the kind of sound that may be heard in the tympanum."

Of the operation of *puncturing* the tympanic membrane, devised by Sir Astley Cooper, Mr. Toynbee expresses, as a general rule, an adverse opinion, declaring that it is seldom required or useful, and that, if not judiciously performed, it is liable to produce the most injurious consequences. It is well known that it signally failed in nearly every instance in the hands of the great English surgeon.

Two long chapters, comprising seventy-two pages, with numerous illustrative cases and drawings, are allotted to the history and treatment of the lesions of the *cavity of the tympanum.* The principal topics discussed under this head, besides the purely anatomical, are the diseases of the mucous membrane, such as the various forms of inflammation, congestion, ulceration, rigidity, the formation of bands of false membrane, anchylosis of the stapes to the fenestra ovalis, and disconnection of the incus and stapes.

The *mastoid cells* next receive their share of attention. Their anatomy is considered first, and then their diseases, the latter being subdivided into those of childhood and those of adult life. Both classes of these affections are liable to eventuate in caries and necrosis of the bone, in lesion of the brain and its membranes, and in paralysis of the portio dura.

Fatal disease of these cells may be induced, first, by purulent infection, arising from the entrance of pus into the circulation through the lateral sinus, and, secondly, by an extension of the morbid action to the cerebellum or its membranes. The former of these occurrences was first noticed by Dr. Abercrombie, in his work on the brain, but it has since been more fully described by Watson, Bruce, Wilde, and Gull, particularly the latter, whose papers in *Guy's Hospital Reports* have thrown much light upon the subject.

Chapter fifteenth treats of the nervous affections of the ear, or of what is usually termed nervous deafness. Under this head are included, first, those affections in which the ear alone is involved; secondly, those in which both the ear and brain are concerned; and, lastly, those which consist in ulceration of the membranous labyrinth, and in caries and necrosis of the petrous portion of the temporal bone.

Malignant disease of the ear is uncommon. The author thinks that it usually originates in the mucous membrane lining the cavity of the tympanum, from which it gradually extends outward through the auditory tube to the outer orifice, where it is apt to be mistaken for polypous growths, at the same time that it encroaches upon the whole of the surrounding parts. Assuming at one time the character of fungous hematodes, and at another of encephaloid, it occurs at all periods of life, though more commonly in young than in elderly subjects; the ages in three cases detailed by Mr. Toynbee being, respectively, three, eighteen, and thirty-five. Its progress is generally very rapid, and the issue of course always fatal.

The chapter on the *deaf and dumb* is treated with the author's accustomed ability and good practical sense. "The number of deaf-mute children," says he, "examined, and from whom the facts in this chapter were obtained, amounted to 411. Of these, 313 were congenital cases, and 98 were the effects of different diseases acquired subsequent to birth." This statement affords a better idea than anything else of the immense labor bestowed upon the preparation of this portion of the work. We subjoin the following practical hints relative to the proper mode of examining children supposed to be deaf and dumb, as there are very few practitioners who are familiar with the subject:—

> "From the absence of precise experiments from which accurate conclusions could be drawn, great difference of opinion frequently exists, even among medical men, as to whether a child suspected of being deaf and dumb really is so.
>
> "It frequently happens, therefore, that a child is reported not to be deaf, because it always starts or looks up when the door of the room is loudly knocked, or the floor over the room is tapped with considerable force, or the fire-irons in the room are permitted to fall, or the piano is played. A similar opinion is often formed because a child can utter some short syllables, as 'Ma,' 'Pa,' etc., it being argued that no child could learn to utter these sounds unless it had heard them. It is also asserted that a child could not have been born deaf, because the defect was not discovered until it had reached the age of a year and a half or two years.
>
> "In reply to the above arguments in favor of a child's being able to hear, it must be borne in mind that loud sounds are always accompanied by more or less vibration of the walls and floor of the apartment, which can be *felt* by a person whose attention may thus be attracted, although totally deaf. A child may also learn to utter short words by simply imitating the movements of the lips of the parent, or nurse, without the exercise of the sense of hearing. The plan adopted by me to ascertain whether a young child is deaf, consists, in the first place, of allowing it to sit on the knee of the nurse or parent, and be amused by something, and then while its eyes are fixed upon the object, to

speak loudly, or shout, taking especial care that the breath does not reach the patient. Again, let the child, its attention distracted as before, be placed with its back toward the surgeon, who should, when near it, clap his hands loudly, ring a large bell, or blow a powerful whistle, always taking care that his own shadow is not seen, and that the child is screened from the movements of the air, while the nurse is warned not to start or suddenly look up; or the surgeon may come into a room, the door of which has been some time open, and where the child is seated with its back toward him surrounded by toys, and perform similar experiments. If the child does not evince any symptom of hearing, by suddenly lifting up its eyes, turning round, or starting, it must be concluded that it is wholly deaf; but if, on the contrary, it looks up each time the surgeon shouts, or turns round quickly the instant the hands are clapped, it is evident that some power of hearing exists, and steps should be taken to ascertain the extent of such power, and how far it may enable the child to be orally taught."

The last chapter in the book is on *ear-trumpets* and their use; and, although very short, abounds in excellent suggestions concerning this important subject.

In bringing our analysis of Mr. Toynbee's labors to a close, we should be doing injustice to our feelings if we were to withhold from him our cordial acknowledgments for the pleasure and profit we have derived from the examination of his excellent treatise. The work, as was stated at the outset of our notice, is a model of its kind, and every page and paragraph of it are worthy of the most thorough study. Considered all in all—as an original work, well written, philosophically elaborated, and happily illustrated with cases and drawings—it is by far the ablest monograph that has ever appeared on the anatomy and diseases of the ear, and one of the most valuable contributions to the art and science of surgery in the nineteenth century.

ART. II.—*Etudes Médicales sur l'Ancienne Rome.* Par JULES ROUYER, Docteur en Médecine de la Faculté de Paris. pp. 239, 8vo. Paris, 1859.

Medical Studies on Ancient Rome. By JULES ROUYER, M.D. Paris, 1859.

THE author of this somewhat curious volume has collected the skimmings, and, it must be said, also a good deal of the moral scum of Roman literature, and especially poetry, to show the extent to which public baths, as well as the use of cosmetics and perfumes, and of practices alike injurious to health and adverse to morals, were resorted to by the Romans in the time of the Empire. The title of "Medical Studies" is misleading. That of Curiosities of the Personal Habits and Vices of the Inhabitants of Imperial Rome, would be more appropriate. Some details are, indeed, given of the varieties of the Roman baths and of their divisions, and the modes of bathing, and a few remarks are added on mineral springs; but of the medical practice and of the physicians of ancient Rome scarcely any notice is taken. Celsus is more spoken of as the friend of Ovid than as the author *de Re Medica.* Dr. Rouyer's chief authorities on the other subjects, after baths, viz., female conjurers, philters, abortion, eunuchs, infibulation, cosmetics, perfumes, etc., are the poets, Juvenal, Martial, Ovid, Tibullus, and Propertius, with occasional references to Celsus and Pliny among the prose writers. We shall follow in his track, but in doing so we must step very warily, in order to avoid the mud-holes and offensive and corrupt matters which lie directly in the way. In expressing ourselves thus we do not accuse the author of coarseness or obscenity in his own language, but of those of the poets whom he quotes. He, for the most part, translates the original Latin verse into plain French prose; but sometimes he admits that the terms used by the poets are too gross for a literal rendering into his own tongue.

In the first chapter, the author speaks of the public baths of Rome and of the mineral waters known to the ancients. Of the former of these themes there are such ample descriptions and details in the volume of Dr. Bell on baths, noticed in this journal last year,* that we deem it needless to present more than a few detached notices from the pages of the French author. We will only indulge in the following quotation from the American writer, just named, to show the wonderful extent and luxurious appliances of the Roman baths: "Within the vast precincts of the thermæ were found temples, palestræ for the sports of running, wrestling, boxing, pitching the quoit and throwing the javelin, and extensive libraries. Architecture, sculpture, and painting exhausted their refinements on these establishments, which, for their extent, were compared to cities: incrustations, metals and marble were all employed in adorning them. Those of which the most numerous remains are still visible are the baths of Titus, Antoninus, Caracalla, and Diocletian. In the order of time, these were of subsequent erection to the thermæ of Agrippa and of Nero. Of the magnificence of the baths of Agrippa, the relation, friend, and counselor of Augustus, an idea may be formed from the circumstance of the Pantheon serving as a vestibule to them."†

If reference be made to Antonius Musa, the physician of Augustus, to show the antiquity of hydropathy, in the successful treatment of this emperor by the use of water internally and externally for a disease of the liver, we must not fail to connect this fact with the fatal results of a similar course directed by the same physician in the case of the young Marcellus, the presumptive heir to the imperial purple; and press them on the notice of the medical reader, in illustration of the danger of the empirical employment of a remedy in persons of different constitutions and powers of endurance and reaction, not to speak of the different and contrasted pathological states at the time. The transition bath, as it is called by Dr. Bell, the Russian of modern, the Lacedemonian of ancient times, was used by the Romans, as we learn from passages in Martial and Petronus. The first of these writers says: "If the practices of the Lacedemonians suit you, you may content yourself with dry vapor, and afterwards plunge into the cold Virginal or Marcian waters."* These were the names of two of the many aqueducts which supplied Rome with water. Petronus writes: "We went to the bath, and when we were in a copious sweat we passed immediately into the reservoir of cold water."†

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* July, 1859.

† Chap. v. p. 82.

With increasing corruption of manners, the public baths, especially when kept open during the night, became the rendezvous of the profligate. Here the courtezans and prostitutes resorted to exercise their vile calling. Among the attendants on the baths were the *tonstrices*, or female barbers, and *tractatrices*, or shampooers, nimble rubbers and kneaders of the bodies of the bathers. These persons were at first restricted to the service of the baths for women, but after a time they were permitted to render similar offices to the bathers of the other sex; and in their turn men performed these tactile movements for the female bathers. The thermal establishments of the Romans were so arranged as to allow of room and accommodations for feasts, or *commessationes*, which lasted half of the day, and sometimes were prolonged far into the night. When Petronus, in his memorable distich, says, "our bodies are corrupted by baths, wine, and love; baths, wine, and love support life,"‡ he had in his mind the debasing and enfeebling accessories of the bath, rather than simple bathing in any of its varieties.

The private baths were scarcely less in size, and were more splendidly decorated, than the public ones of ancient Rome. Pliny the Younger, in one of his letters, describes the baths of his country-seat at Laurentium, now *Torre di Paterna*, six leagues from Rome. The Roman ladies would bathe in nothing short of reservoirs made of the

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*Ritus si placeant tibi Laconum
Contentus potes arido vapore
Cruda Virgine Marciave mergi.—Lib. vii. ep. 42.

† Itaque balneum intravimus et sudore calefacti, momento temporis ad frigidum eximus.

‡ Balnea, vina, Venus, corrumpunt corpora nostra,
Et vitam faciunt, balnea, vina, Venus.

most precious materials, such as of silver; and Seneca inveighs against the costly and luxurious embellishments of the walls and ceilings of the baths—the marbles of Egypt inlaid with those of Numidia, mosaic borders, walls laboriously stuccoed in imitation of painting, the ceilings of the chambers covered with glass, piscinas of Thracian stone, and silver pipes for conveying the water.

The strangest vagaries in thermal or balneatory practices were indulged in by some of the Roman emperors. Tiberius, after he had retired to Capreæ, used to bathe with children, who swam and performed various antics in the cistern. Heliogabalus never bathed without previously causing to be thrown into the water of the reservoir the rarest perfumes, or the essence of saffron. This embodiment of all that was luxurious, vile, and licentious used to subject his parasites to a fashion of bathing which was not ill timed in their case. He had them made fast to a wheel, which was in part below the surface of the water, and which consequently in its revolutions secured a thorough immersion for the imperial flatterers, who were complimented by their master with the title of his dear Ixions—"*Ixionios Amicos.*" Heliogabalus, after listening once to a conversation on the subject, bethought himself of a singular method, which he carried into practice, for procuring a personal knowledge of the statistics of hernia. He had an exact list of all the persons in Rome who were afflicted in this way, and having summoned them together, he bathed with them. On other occasions he brought together all the prostitutes of one of the quarters of Rome, bathed with them, acted as depilator, perfumed them, and then collected for his own personal use the cosmetic pastes of which these women had made use. Domitian had similar tastes in the selection of his bathing companions, and in performing the like offices for them. We speak of the barbarians overrunning and destroying the Roman empire as a terrible and deplorable event. Was it not rather a necessity, an agency visibly chosen by God for the restoration of mankind from the lowest condition of debased and worn-out humanity to youth and freshness? A new birth was called for, and it could only be brought about in this violent manner.

Mineral springs were known in large numbers in the time of Pliny, who gives them names and medicinal properties, real and imaginary. On this topic, the matter furnished by Dr. Rouyer is very meagre. Were it necessary, we could supply his omissions from our own large stores, especially in what relates to the thermal waters known to the Roman world; but we do not deem the present an opportune occasion. The author just named speaks of the waters of Sinessa, in Campania, which had the double virtue of removing sterility in women and of curing insanity in men. There were some, the use of which changed the color of the hair, and imparted the gift of memory; while others, less prized, but perhaps equally beneficent in their effects, caused entire oblivion of the past. The voice was improved by some, and made raucous by others. At Cyzicum there was a fountain, called after Cupid, which cured lovers of their passion. Now-a-days, it does not, we believe, require a water of any great strength to produce this effect. Heart affections are measured by the stethoscope and pleximeter, rather than by sentiment and song. Pausanias speaks of a still more wonderful spring, the waters of which renewed virginity. It was annually visited by Juno, with a belief in its possessing this virtue. In the line of marvels, we may mention a spring, without a name, in Ethiopia, of which Herodotus speaks in the following terms: "They who bathed in this fountain gave out an odor of violets, as if they had been thoroughly perfumed, and their bodies were as shining as if they had been rubbed with oil. The water is so light that nothing, even wood, can swim in it. Whatever is thrown into it sinks to the bottom. If this water is truly such as it is represented to be, the continual use of it by the Ethiopians is probably the cause of their longevity, (a hundred years or more)." It was by such narratives as these that Herodotus, the really truthful describer of what he himself saw in his travels, was stigmatized as the father of lies, instead of being universally recognized as "the father of history," a title which is really his due.

From the latter period of the republic to an advanced one of the empire, Baiæ, situated on the western shore of the Bay of Naples, was a fashionable watering-place, and the summer abode of men celebrated in Roman history. Among these may be named Hortensius, Lucullus, Marius, Sylla, Julius Cæsar, Cicero, and Pompey; and among the emperors, Nero, Claudius, Caligula, and Adrian. The Island of Capreæ, the retreat of Tiberius, was close by, although he ended his days at Baiæ by suffocation. Changed is now the scene from that described by Horace, who wrote: There was not to be found in the world a more delightful region than that of Baiæ.* Before long, however, this enchanting spot became the rendezvous of courtezans and even prostitutes, and the moral atmosphere of the place became as tainted and deadly to mental purity as the physical is to the bodily health at the present time. Hot springs furnished water as well as vapor for every variety of thermal bathing, with which could be easily alternated sea-baths. Even at the present day, the traveler, when coasting along the bay in his boat, a privilege which we once enjoyed, sees the substructions jutting out into the sea, of some of the ancient Roman villas, and thermæ, and temples. We need not repeat the encomiums lavished on the spot by Martial, and only make passing mention of the adjoining Lucrine lake, celebrated for its green oysters, and once part of the naval depot (*Portus Julius*) of the Romans in this quarter. It communicated in one direction with Lake Avernus, and in another with the sea by a canal.

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* Nullus in orbe sinus prælucet amænis. (Lib. i. *Epist.* i.)

Fortune-tellers, philters, etc., make up the subjects of the second chapter of Dr. Rouyer's volume. "There existed," he writes, "at Rome, a class of women called *sagæ*, who were engaged in petty traffic, which could only be carried on in a clandestine manner; they were fortune-tellers, and, at the same time, procuresses and perfumers, but if they had a specialty, it was in bringing on abortion. Their name, *sagæ*, served to designate those women who devoted themselves to the practice of midwifery, *sage-femmes*." The chief details respecting the callings of the *sagæ* are furnished by the Latin poets, and especially by Tibullus, Propertius, and Ovid, the triumvirate of love, as they have been called by an old commentator. All that related to love in its physical aspects and to debauchery, came within the functions of the *sagæ*. The most lucrative of their various pursuits was the sale of a crowd of preparations intended for purposes not commonly avowed: as, for instance, to obtain the love of a certain person, by means of philters, properly so called; to secure agreeable dreams; to cause hatred; to inflict suffering on somebody; not to speak of philters to bring on abortion, to prevent conception, etc. Philters which had the property of rendering a person unfit for love, are often referred to by the elegiac poets, who seem to dread, not a little, their power in this way. Many of these fortune-tellers came from Thessaly, which, in this respect, had a reputation in ancient times similar to that enjoyed by Bohemia at the present day, as the reputed home of the gipsies, who are scattered through the different countries of Europe. We shall not follow the author in his account of the composition and alleged effects of different philters, coming under the head of *aphrodisiacs*, nor the fictions introduced by the poets, explaining their origin or confirming their properties. Ovid utters sensible advice on the subject, by exhorting his readers not to rely on such means of excitation. Horace, on the other hand, after denouncing the sorceress Canidia, and her vile incantations and philters, professes to have been himself one of her victims.

The *sagæ* were reputed to be able, by their incantations, to unfit persons *ad militiam veneream*. The Romans made use of two words to designate these juggleries, viz., *præligare*, when it was a question to prevent the first intercourse between two lovers; and *nodum religare*, when the incantation was intended to interrupt an intercourse already established. Ovid speaks of cicuta as an aphrodisiac, and Pliny of the *nymphæa alba*, and of the still more potent *nymphæa heraclea*. The Athenian women, during the Thesmophoria, or festivals in honor of Ceres, in which they took a vow of continence, made large use of the *vitex agnus castus*, called by the Greeks *lygos* or *agnos*, and scattered it over their beds.

Dr. Rouyer terminates this chapter by what will strike many of his readers as a specimen of book-craft. He thinks it apropos of the numerous passages which he has quoted to introduce some biographical notices of their authors, viz., Pliny, Ovid, and Tibullus. Of these, Ovid, if we may judge from the greater space allotted to him, would seem to be the favorite. At the end of the fourth chapter, similar notices of Martial and Juvenal are furnished.

Abortion, as so largely practiced among the Romans, is described in the third chapter of this volume. It was had recourse to from different motives. First and mainly, to prevent exposures from unlawful intercourse, and thus to remove a bar to debauchery; and secondly, to avoid the loss of symmetrical outlines of the body caused by pregnancy, and the diminution of female charms growing out of parturition and the cares of maternity. Ovid says plainly, that women caused themselves to abort in order, by this crime, to prevent the wrinkles and folds of the skin of the abdomen left by pregnancy. Ovid, not commonly good authority in a question of morals, expresses himself like a sound physiologist, in his pointing out the danger of abortion to the health and even life of the woman, who in attempting to destroy her uterine burden, brings deserved death on herself. The passage is worth transcribing.* "Young girls have recourse to it, but not with impunity; for she who endeavoring to destroy the child in her womb is often the victim of these attempts; she perishes—carried, with her hair disheveled, to her bed, and those around exclaim—She has deserved it!"

The infamous specialty of practicing abortion belonged to the *sagæ*, who were occasionally aided in their criminal manœuvres by the family nurses; these latter, as their young charge grew up to womanhood, became their confidantes and advisers. The Roman law enjoined severe punishments on those who were guilty of procuring abortion; but with the increasing corruption of manners under the emperor, they were seldom enforced. Julia, the niece and concubine of Domitian, who was in the habit of destroying the fruit of her illegitimate love by abortion, finally fell a victim to one of these unnatural and criminal acts.

Dr. Rouyer, by a transition to our own times, describes an unhappily too close imitation of the manners and vices of ancient Rome in modern Paris, in which city there are houses ostensibly for the reception of women during their confinement, (*maisons soi-disant d'accouchements,*) but in reality open asylums for prostitution and the procuring of abortion, some of which are even known to strangers. The law is often at fault in exposing and punishing the chief actors in these vile receptacles, owing to the want of physical proofs, although those of a moral nature might be deemed conclusive. When a sufferer from the manœuvres to bring on abortion, alarmed for her life, consults a physician, he feels, naturally, indignation at the atrocity of the act, but he is restrained from at once ferreting out and denouncing the criminal by his implied obligations to preserve the secret of his patient.

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* At teneræ faciunt, sed non impune, puellæ.
Sæpe suos utero quæ necat ipsa perit;
Ipsa perit, ferturque toro resoluta capillos;
Et clamant: "Merito!" qui modo cumque vident.
(*Amores*, lib. ii el xiv.)

Eunuchs, the theme of the fourth chapter of the volume before us, furnish a still more atrocious example than any of the preceding ones which have been brought to our notice by the author, of the cruelty and licentiousness of the inhabitants of imperial Rome. The *lex talionis* invoked in the malediction pronounced by Ovid, that "he who the first deprived children of their genital organs ought himself to have been subjected to the operation," could not have been carried into effect, if we put faith in the assertion of both Claudian and Ammianus Marcellinus, that Semiramis, the famed queen of Assyria, the wife and successor of Ninus, was the first "*quæ teneros mares castravit.*" The author distinguishes the different kinds of castration resorted to with a view of making eunuchs, who were designated accordingly. The *castrati* were those from whom all the external organs of generation had been removed; the *spadones* had lost their testicles; and a third class, *thlibiæ*, retained their virile organs, but their testicles had been crushed and the procreative functions in consequence abolished. Sometimes these last were designated by the term *thlasiæ*. The first were the most prized, and cost much more than the others—a difference which is found to prevail in the Eastern world in which this vile practice is still kept up. Of its great antiquity in those countries, an idea may be formed from the fact that in the times of ancient Rome a great many eunuchs came from Persia. The Island of Delos was also celebrated for its depot of eunuchs. Castration was practiced by barbers, (*tonsores,*) and also by the *mangones*, those who were more especially engaged in the trade of these imperfect specimens of humanity. The operation was usually performed at a very tender age, or soon after birth, but sometimes after the period of puberty.

Eunuchs were in great demand among the Romans, and particularly among the Roman women *ad securas libidinationes*, says St. Jerome.*

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* These degraded creatures were sometimes used for still viler purposes, and played a double part: *inter fœminas viri, et inter viros fœminæ.*

Domitian, notwithstanding all his cruelties and tyranny, issued an edict against the process of emasculation, which was confirmed by his successor Nerva. On the other hand, Heliogabalus was liberal in his gifts of money and of office to eunuchs. The severe moralist will perhaps look with a more lenient eye on castration when practiced as a punishment for adultery, as in the cases of Carbo Attienus and Marcus Pontius, who were caught *in flagrante delictu.* Martial twits a poor husband for threatening to cut off the nose of his wife's lover, with the taunting remark, that "this was not the offending organ. Poor fool!"

A few lines are given by Dr. Rouyer to the unsexing of women, which was first practiced by Gyges, King of Lydia, in order that his wives might preserve for a longer period their youthful freshness and beauty. It is most probable that the operations referred to by the ancient writers were not excision of the uterus or ovaries, but resection of the clitoris when too largely developed, or of hypertrophied *labiæ minoræ.* This last operation is still practiced in certain countries.

A short chapter (v.) is given to the practice of infibulation in ancient Rome. It is described by Celsus (lib. vii. xxv.,) who assigns as reasons for performing it, the preservation of the voice and regard for health, *valetudinis causâ.* Infibulation by a silver ring through the prepuce was practiced to prevent too early sexual intercourse. At a more advanced age the fibula was removed, and this event was coincident with the assuming of the toga, as an evidence of manhood and its privileges. Actors and singers were subjected to infibulation by the person who had charge of the theatres. Physiologically, one cannot see how the voice would be improved by this process, as in the cases of castration, except by preventing venereal excesses, and thus withholding one cause of debility and languor, which would interfere with the pitch and clearness of vocalization.

Connected with the history of the *fibula,* is that of the *subligar* or *subligaculum.* It was a kind of leathern apron which covered the genital organs and extended from the waist to the knees. All actors when on the stage were required to wear the subligar. Its use was equally enjoined on those who entered the bath. The reader must bear in mind that neither pantaloons nor drawers formed any part of the dress of an inhabitant of ancient Rome.

Cosmetics and perfumes were in great demand among the nations of antiquity; and even the physicians did not think it beneath them to direct their attention to the various practices in use for embellishing the body. Numerous formulas of preparations for the purpose are to be found in Hippocrates, Celsus, Galen, Paul of Egina, etc. The objects to be attained were twofold: All that related to hygiene and beautifying the body came under the *ars ornatrix,* or *cosmetic;* carrying things still further, the *ars fucatrix* or *commotic* was reached. This latter was the art of arresting natural imperfections and of repairing the ravages of time. The Romans carried the use of perfumes to an excess, as they did every luxurious enjoyment. No festival or symposium was complete without aids of this kind. Their baths were perfumed, as were the theatres and their chambers and beds. Their most esteemed wines received a *bouquet* from the same source. Odoriferous substances were put on the funereal pyre and burnt with the body. Martial apostrophizes a certain Zoilus as a vile rogue, and charges him to "restore speedily those perfumes, that cannella, that myrrh which still exhales a funereal odor, that incense abstracted from the flames of the pyre, and that cinnamon which you have stolen from the bed of death."*

Egypt, Arabia, and India were put under contribution for obtaining the substances out of which the perfumes were afterwards manufactured in Rome. Italy itself furnished for this purpose the lily, the iris, the oenanthe, the narcissus, the marjolan, etc. The roses of Pæstum enjoyed at that time a great reputation, and were celebrated by the poets both for their delightful scent and their twice yearly flowering—*biferi rosaria Pæsti.* The odorous reed (*andropogon schœnanthus*) furnished also one of the commonest and the least esteemed perfumes: it was almost exclusively used by the frail sisterhood, who on that account were sometimes called *schoeniculæ*, from *schænus*, the received name of the plant. This class of women were forbidden to make use of the choicer perfumes, as they were to wear certain stuffs and dresses, the use of which was reserved for matrons. They were also forbidden to wear black hair, and were still more degraded by being required to dye their own of a yellow or blue color.

The *ars fucatrix*, or *commotic*, opens to our notice questions of a more varied and interesting nature. The trade in it included a certain number of specialties which are practiced even at the present time. The philocommetic preparations were extremely numerous among the Romans. Pliny is quite liberal in giving the formulas for many of them. The pear enjoyed a high reputation for its many properties: it was thought to be aphrodisiac, to improve the voice and to favor sleep; and the peelings, when boiled, served to dye the hair of a black color. Bear's grease was as much extolled for its alleged hair-growing virtues as it was recently in our own day. The Latin poets are profuse in their references to and descriptions of the cosmetic devices adopted by the women. This was still more the case in reference to the preparations destined to preserve the freshness of the complexion and the softness of the skin. The empress Poppæa always kept near her, in Rome, and took with her on her journeys, a large number of asses, whose milk supplied her baths. The most celebrated soap came from Gaul: it was of two kinds, the soft and the liquid, and was said to be made of goat's fat and the ashes of the beech.

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* Unguenta et casias et olentem funera myrrham
Thuraque de medio semicremata rogo,
Et quæ de Stygio rapuisti cinnama lecto;
Improbe, de turpi redde, Zoile, sinu. —Lib. xi. ep. 55.

The chief pigments used for imparting a white color to the skin were white-lead and chalk; while the red was procured from carmine and a substance taken from the excrements of the crocodile, and also, according to Pliny, bull's dung. Ovid is still more minute in revealing the mysteries of the toilet by which the Roman ladies endeavored to repair the ravages of time—*munditiis annorum damna rependunt.* Addressing one of them, the poet says: "You borrow the deceitful whiteness of ceruse; other artifices supply the color of the blood. You know how to stretch or to render thicker your eyebrows, and to conceal your real cheeks under a cosmetic. You are not ashamed to give additional lustre to your eyes by the use of fine powders, or by saffron, which grows on the banks of the limpid Cydnus."* Ovid composed a poem entitled *Cosmetics*, (*Medicamina Faciei,*) which he dedicated to the other sex, as we see in the first two verses:—

Discite quæ faciem commendat cura, puellæ,
  Et quo sit vobis forma tuenda modo.

The greater part of this work is lost, but a fragment of a hundred verses remaining, bears evidence of the astonishing faculty in versifying, by which he could give, in harmonious numbers, eight different articles, and the proportion by weight of each of them, for a formula, intended to give a uniform and more brilliant hue to the skin. Martial often speaks of women who make excessive use of ceruse and chalk, in these lines:—

Sic, quæ nigrior est cadente moro
  Cerussata sibi placet Lycoris.—Lib. ix. ep. 38.

"Lycoris, who is blacker than a ripe mulberry, thinks herself beautiful when she is whitened with ceruse."

We learn from many epigrams of this poet that dental prothesis was in high repute among the Romans. "Thais has black teeth, Lecania has white ones. Why is this? The former has her own teeth, the latter purchased ones."† The testimony of Martial refers only to the dentistry of the first century of our era; but there are proofs of an earlier period of this art in the tenth of the Laws of the Twelve Tables, which date as early as 450 years before Christ. To the prohibition to bury gold with the dead an exception was made in the case of that which was found in the mouth of the deceased for the purpose of fastening the teeth together.

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* Ars Amoris III.

† Theus habet nigros, niveos Lecanea dentes;
  Quæ ratio est? Emptos hæc habet, illa suos.
    (Lib. v. ep. 43)

Depilation was carried to a great extent in the luxurious and degenerate period of Rome. All parts of the body were, for various reasons, subjected to the operation—the face, forehead, armpits, arms, hands, legs. Cicero speaks of depilation of the eyebrows; but it was most practiced in the region of the genital organs, and to the greatest possible extent. Women took the lead in these operations, which were executed, in the first instance, probably from considerations of cleanliness and of hygiene, but afterwards from the requirements of perverse fashion. Pliny mentions a number of depilatories. The preparations specially employed for the purpose were called *psilothrum* and *dropax*, also friction with pumice-stone. In some cases the hair was pulled out by tweezers named *volsellæ;* and in others the parts were shaved with a rasor, (*novacula.*)

We find that our detached notices of Dr. Rouyer's volume have already led us farther than we intended, and that we must, therefore, postpone to another time an account of the latter portion of it, which consists of an historical sketch of women engaged in midwifery in ancient times, and thence, by not very well marked gradations, through the middle ages down to those of our own day—or from the goddess Juno to Madame Boivin and Doctress Elizabeth Blackwell. A separation may well be made between the subjects which we have brought under the eyes of our readers and the contents of the last chapter on "Medical Studies," etc.

ART. III.—*Clinical Lectures on Certain Acute Diseases.* By ROBERT BENTLEY TODD, M.D., F.R.S., etc. etc. 8vo., pp. 308. Philadelphia: Blanchard & Lea, 1860.

THERE is at the present time in Great Britain a formidable array of names enlisted against the so-called antiphlogistic treatment of disease; and however much the doctrine may come in conflict with our previous notions, it must be conceded that with such advocates as Sir John Forbes, John Hughes Bennett, and Robert Bentley Todd, there is at least a very respectable weight of authority against the depletory system of practice, even in acute inflammatory diseases. It may be questionable, however, notwithstanding the justly proud eminence which these names occupy in the history of our literature, whether the views so enthusiastically espoused by the advocates of the new theory are based upon an untenable hypothesis respecting the nature of inflammation, or upon legitimately and accurately observed clinical facts. Medicine as a science always influences, to a greater or less degree, medicine as an art; our practice is apt to partake of our theory; and in the Clinical Lectures of Dr. Todd, we have a bold *practical* exposition of the school to which he belongs, and the theory which he so long and so ably advocated. This will appear evident from the following propositions which are briefly summed up in the preface to his Lectures:—

> "1. That the notion so long prevalent in the schools, that acute disease can be prevented or cured by means which depress and reduce vital and nervous power, is altogether fallacious.
>
> "2. That acute disease is not curable by the direct influence of any form of drug, or any known remedial agent, excepting when it is capable of acting as an antidote, or of neutralizing a poison, on the presence of which in the system the disease may depend, (*materies morbi.*)
>
> "3. That disease is cured by natural processes, to promote which, in their full vigor, vital power must be upheld. Remedies, whether in the shape of drugs which exercise a special physiological influence on the system, or in whatever form, are useful only so far as they may excite, assist, or promote these natural curative processes.
>
> "4. That it should be the aim of the physician (after he has sedulously studied the clinical history of disease and made himself master of its diagnosis) to inquire minutely into the intimate nature of the curative processes—their physiology, so to speak—to discover the best means of assisting them, to search for antidotes to morbid poisons, and to ascertain the best and most convenient methods of upholding vital power."

The practice of Dr. Todd, it will be at once perceived, is based upon the hypothesis of Sir John Forbes, that all diseases are but modifications of physiological action, that they are essentially vital, and being but manifestations of modified vital action, the same *a priori* grounds are assumed by our author throughout, that nature alone has the power of curing diseases, and that art can assist only so far as she can aid nature in her salutary and conservative reactions. Until quite recently he would have been regarded as a bold speculator, and a worse practitioner, who would have maintained this view in reference to the treatment of acute inflammatory affections; and yet if we assent to the premises assumed by the advocates of the new pathology, we cannot consistently, at least so far as theory is concerned, refuse to accept the practical deductions. It is proper, therefore, that we should carefully scrutinize the premises of the advocates of a practice so largely at variance with the concurrent testimony of the great body of the profession.

Some years since we remember to have read an interesting monograph on the subject of inflammation, by Professor Watters, of St. Louis, in which the views of Dr. Todd, Bennett, and others were clearly foreshadowed. It was assumed in the essay to which we refer that "*disintegration is the vital motor*," and that we must look to destruction of tissue for the primary condition of increased capillary circulation, or "capillary power," as it is sometimes termed. The same view was subsequently presented by Dr. Hinton, in the *British and Foreign Medico-Chirurgical Review* for July, 1858. He there assumes, under a somewhat varied phraseology, the same general position, viz., that "increased action of inflammation is the *effect* of increased decay;" and he reasons from this, that the symptoms of increased activity in the inflammatory process can never go beyond their *cause*, can never exceed the defect of vitality of which they are at once the effect and the sign, and that the reactive process in inflammation is in every case a *salutary*, that is, a saving or restorative process.

Dr. Bennett, in his Clinical Lectures on Inflammation, presents, substantially, the same view. He regards the throbbing of the vessels witnessed during inflammation as a *result*, not a cause of the morbid action. According to his view the blood is not forced in by a *vis a tergo*, but is drawn in by a *vis a fronte*. With Hinton he contends that the hyperæmia is salutary, the increased vascularity in the inflamed part being a wise provision of nature to promote cell growth in the part. Hence, says Bennett, "as cell growth occurs during inflammation, it is absolutely imperative that the part in which these nutritive changes go on should receive more blood to enable it to accomplish them." Blood-letting, therefore, by a most logical process of reasoning, becomes, in his estimation, an improper agent in the treatment of inflammation; for the reason that it interferes with the nutritive acts necessary to accomplish a cure. And Dr. Todd assents to this doctrine by adding: "You must feed inflammations as you would other active vital processes."

Now with all deference to the eminent authority of Forbes, Bennett, Todd and others, we cannot but regard the doctrine of *pathological* nature being conservative in her reactions as liable to many exceptions, not the least striking of which is that of acute inflammation; nor can we for a moment think, notwithstanding the high authority in its support, that the practice of attempting to force blood by the free use of artificial stimulants, into inflamed tissues in the acute phlegmasia, will ever receive the sanction of any considerable number of practitioners either in Great Britain or America.

And just here the question may be naturally propounded,—Why give stimulants? If, as is assumed by the advocates of the new theory, the increased action of the vessels is but an expression of a want in the cell structure of the part, and that the inflammatory process can never go beyond the cause, why interfere with remedial agents at all? Is not the supply precisely equal to the demand? Is not the one the exact expression of the other? Why therefore stimulate any more than restrain? Why not fear increased action from stimulants as much as decreased action from blood-letting and other antiphlogistics? Is there not danger of disturbing the harmonious relation which exists between cause and effect?

In reply to this it is claimed by Dr. Todd, that to promote these conservative reactions vital power must be upheld by stimulants; but where vital power is feeble, disintegration, it will be remembered, is correspondingly feeble, and increased determination of blood to the part is not therefore demanded; indeed it would impose a burden—the determination of blood already existing being but an expression of the cause which necessitates it. Why not rather by some means seek to arrest disintegration, which is assumed to be the *primary condition*, and thereby lessen the demand for increased flow of blood to the part?

These views, it will be seen, are not in harmony with the admirable teachings of Paget in his Surgical Pathology. It is true, he locates the prime cause of inflammation in "the various perversions of the necessary conditions of healthy nutrition." These sometimes have their origin in the blood-vessels, sometimes in the blood itself, sometimes in the nervous endowment of the part, and sometimes in the condition of the part to be nourished. Inflammation may be irritated by the perversion of any one of these conditions of nutrition; and let the prime link in the chain of morbid action be what it may, impairment or suspension of the nutrition of the inflamed part is the invariable consequence. Indeed, the impairment of formative capacity and tendency to degeneration and death of the part, is that which most plainly distinguishes inflammation from healthy hyperæmia. In one case we have increased flow of blood, with corresponding activity of the nutrition of the part; in the other there is increased flow of blood, with partial obstruction and degeneration of the part; in one instance the hyperæmia imposes a burden; in the other it supplies a want. The condition of one gradually and imperceptibly passes into the other; and it is as difficult to point out the exact boundary line which separates *active congestion* from inflammation, without the aid of high magnifying powers, as it would be to tell where one shade of the rainbow begins and the other ends. And yet the practical distinction must be recognized, for it lies at the foundation of all rational views of the treatment of inflammation. In the early stages of inflammation we may be able, by remedial agents, to restore one or more of the disturbed conditions of normal nutrition, and thereby avoid the invariable sequence—a lowered vitality, with a tendency to degeneration and death of the part. But if we start with the general proposition that there is no destruction in the types of inflammation, that vascular excitement is in every stage conservative and salutary in its tendency, and seek to aid it by direct stimulation, we cannot but regard the consequences as often disastrous in the extreme.

That Dr. Todd's Lectures, however, are full of most valuable practical illustrations, no one can for a moment deny. His views as to the nature and treatment of rheumatic fever are peculiarly able and suggestive. He reviews, at length, the various plans of treatment which have been suggested and adopted by their respective advocates, and, for convenience of arrangement, adopts the following order: The first plan is that by venesection; 2, moderate bleeding and diaphoretics; 3, mercury; 4, colchicum and guaiacum; 5, opium; 6, quinine; 7, *treatment by elimination.* The latter plan he regards as the most rational and successful. With Fuller, Williams, Watson, and others, he thinks it probable that the *materies morbi* in rheumatic fever is *lactic acid*, or some analogous agent, and the most natural emunctories of this are the skin and kidneys, a certain portion of it, perhaps, being carried off through the alimentary canal. His indications of treatment are, then, to promote the action of the skin, the kidneys, and the bowels; to use antacid remedies; and to give large quantities of fluid for the free dilution of the *materies morbi.* For the purpose of promoting the action of the skin, he is partial to the use of opium, especially if combined with nitre and ipecacuanha; and he thinks

> "The best alkali, on the whole, is the bicarbonate of potassa, which may be given in large and often-repeated doses—a scruple or half a drachm every third hour. Sometimes the acetate of potassa answers very well in similar doses, and many physicians prefer it to any other alkaline salt."

And as a purgative he uses alkalines—the "white mixture" of the hospital, containing magnesia and sulphate of magnesia. The local treatment is also thoroughly discussed. The practice of leeching he regards as not only useless, but often positively hurtful—"You render the disease more erratic, and less amenable to subsequent treatment." When the joints are swollen and painful, great ease may be obtained by enveloping them in a large quantity of soft carded cotton—commonly called *cotton-wool*—over which wrap a sheet of oiled silk, so as to keep the joint in a complete vapor-bath. "It affords great relief, supports and keeps the limb steady, and at the same time promotes sweating." In case, however, the swollen and painful state of the joints does not yield to the cotton wool and oiled silk, he adds:—

> "I have no hesitation in advising you to apply blisters. * * * I do not think it advisable to apply *large* blisters; on the contrary, they are injurious,

and their use is to be deprecated. * * * * You must not let the size exceed that of a crown-piece. It is better to apply two or three small blisters in rapid succession, and to different parts of the joint, than one large blister."

Our author is somewhat peculiar in his advocacy of the application of blisters in the early stages of rheumatic inflammation :—

> "I believe the dread which some physicians had, and have, of applying blisters near inflamed parts—as near an inflamed lung, or pleura, or pericardium—is due to their having used blisters of too great a size. I have applied them very early to rheumatic joints in numerous cases, and always with more or less advantage, provided the blisters have not been too large. A very large blister is very apt to do mischief, and augment the inflammation of the joint; but a small one, varying in size from that of a crown to a half-crown, is almost invariably beneficial. When a very copious effusion has taken place into a joint, the plan of applying two or three small blisters in succession, at different parts of the joint, provided the first should fail in getting rid of the effusion, is productive of the best effects."

And, in the closing of his last lecture on this subject, he calls attention to a sign which, he says, has often led him to pursue an altered course of treatment :—

> "When the patient has begun to pass pale urine, in good quantity, either without precipitate, or with a greater or less quantity of pale lithates, you will almost invariably find that he will be the better for a more generous treatment, even although the articular affection still continue troublesome. You may give him ammonia, or quinine and sulphuric acid, and in many instances you may give wine or brandy; and I have been astonished at the rapidity of the progress of cases under this altered treatment; patients, whose symptoms had been stationary for two or three days, have, under the circumstances and treatment I have described, become convalescent in little more than forty-eight hours."

The lectures on Continued Fever embrace the consideration of the typhoid, typhus, and relapsing forms. Beyond a clear statement of our current literature on these subjects, they contain nothing new. Our author subscribes to the doctrine of Louis, Jenner, Bartlett, and others, of this country, that typhus and typhoid are produced by a distinct, although, doubtless, very similar poison : but he confesses to the difficulty of making out, at all times, a satisfactory diagnosis :—

> "Admitting, as I do, the existence among cases of continued fever of two clinical varieties, the typhoid and typhus, I am nevertheless convinced that instances every now and then occur, in which the distinction cannot be made, unless the presence or absence of enteric symptoms alone, or of some other *single* symptom, be taken as diagnostic."

His treatment consists largely of nutrients and stimulants—beef-tea, quinine, carbonate of ammonia, chloric ether, brandy, opium, and blisters. We give the concluding portion of his last lecture on this subject in full:—

"My first rule is this—never give up a fever patient until he is plainly *in articulo mortis.* Patience, perseverance, and steady adherence to a well devised plan of treatment are, in fever cases, often crowned with success under the most discouraging circumstances.

"2. When you undertake a case of this kind, insist upon having a good nurse; give her full instructions, if possible in writing, and require her to keep a note of all food and medicine administered by her. Do not trust to the nursing by relatives.

"3. It is not advisable that you should see your patient too often; once, or at most twice a day, will be, in general, quite sufficient.

"4. Do not be anxious to account or provide for every new symptom or change that may arise. Do not treat symptoms too much, but look to the general condition of your patient. Diarrhœa, delirium, coma, hemorrhage, are the symptoms you should look out for, and be prepared instantly to meet.

"5. Watch the pulse closely, both as to quality and frequency. Always keep in view that increase of quickness is a sure sign of increasing debility, and that the diminution of quickness (when not referable to any cerebral affection) is the reverse.

"6. Never allow a day to pass without carefully examining the abdomen of your patient, and especially the region of the bladder.

"7. Do not be anxious about the action of the bowels, and the so-called secretions. Many a patient in fever has fallen a victim to the *diligentia medici nimia* in improving 'the secretions.' You may make them perfect in color and consistence, and yet your patient will die.

"8. Restrain diarrhœa and hemorrhage, and when, in typhoid fever, you have fairly locked up the bowels, keep them so. Patients will go for four or six days, or even longer, without suffering inconvenience from this state of constipation.

"9. From the first moment of your attendance, let it be your constant and anxious effort to uphold the vital power of your patient, by nitrogenous food given as broths, and carbonaceous food, selected from farinaceous substances, and from alcoholic fluids, such as wine, brandy, or other fermented liquors.

"10. Increasing delirium and coma are signs of increasing debility: both indicate the necessity for additional support; coma is often benefited by freely blistering the nucha and scalp, and even the region of the heart."

In the treatment of erysipelas, Dr. Todd does not attach much importance to the use of the tincture of sesquichloride of iron. His reliance is mainly upon stimulants and nourishing food, administered freely, from the very commencement of the attack. Indeed, he appears to regard alcoholic stimulants as *antidotes* to the erysipelatous poison:—

"If I were to be restricted to any one remedy in the treatment of this disease, I should, assuredly, choose brandy. With a commissariat well supplied with brandy, and simple means to keep the bowels open, I think I could engage to keep erysipelas at a minimum among the wounded in our army in the Crimea."

But it is in the chapters "On the Treatment of Acute Internal Inflammations" that we have the peculiar views of the author most dogmatically enforced. No one can rise from the perusal of these chapters and not award to him at least honesty in most vigorously acting up to his own belief; for on one occasion he remarks: "This patient had altogether about thirty-one pints of brandy, or an average of about a pint a day for a month." And even the delirium which is often associated with acute inflammatory affections, offers no exception to the brandy treatment:—

> "This is a fact which I have so often verified, that I am enabled to enunciate it dogmatically, that alcohol, carefully administered from an early period, in small and often-repeated doses, is the best preventive of, and antidote to delirium in acute disease."

Dr. Todd lays much stress upon the *mode of administering* stimulants: "They should be used *early*, with care and watchfulness, in very definite quantities, and not in a vascillating or timid manner." But when thus carefully administered his faith in the use of these remedies may be judged of by the following paragraph:—

> "I say it, after mature reflection and a long course of observation, that there is no point of therapeutics so deserving of the study of the earnest-minded physician or surgeon, who is zealous to save life, as that of the action of these agents, both in health and disease."

The lectures "On Pneumonia and its Complications" we regard as among the ablest of the course. The clinical varieties are divided into (1) Simple pneumonia; (2) Pneumonia complicated with *acute gout*, or with *rheumatic fever;* (3) Strumous pneumonia; (4) Typhoid pneumonia; (5) Traumatic pneumonia. These varieties are presented with a clearness and conciseness which are strikingly in contrast with many of our more elaborate publications on this subject. The composition of the urine in pneumonia is fully discussed. It will be remembered that when hepatization of the lung is complete, there is a deficiency of all the *saline* ingredients, and particularly the *chloride of sodium*, (common salt.) Until resolution is established this salt is wholly, or almost wholly, absent from the urine. The presence or absence of this *chloride* may be easily ascertained by a very simple chemical test.

> "About a drachm of the urine should be placed in a test-tube and acidulated with a little nitric acid; to this a few drops of the nitrate of silver should be added, when, if any chloride be present, a white flocculent precipitate (*chloride of silver*) will occur; and the *quantity* of chloride in the urine may be roughly estimated by noting the bulk which this precipitate occupies, after having been allowed to subside to the bottom of the test-tube a short time. If, on the other hand, no precipitate takes place on the addition of the solution of nitrate of silver, you may conclude positively and certainly that no chloride is present in the urine."

Two questions in this connection are submitted by the author: 1. What becomes of the chloride of sodium under these circumstances, if it does not pass out in the urine? 2. Why does the chloride of sodium return so quickly into the circulation and urine? Dr. Beale has shown that chloride of sodium accumulates in the *sputa* and in the *inflamed portion of the lung;* there would appear to be some attraction in the inflamed pulmonary tissue for this salt; the precise object of this, however, is as yet a matter of speculation; but it is an interesting question, as suggested by the author, whether a similar state of things occurs in acute inflammations of other organs, or in bronchitis, etc. And he adds:—

> "One conclusion may certainly be inferred from these curious chemical details, namely, that the disease of which we are speaking involves profound changes in the chemistry of life—in the interchanges between the blood and the tissues, and in the chemical constitution of the blood itself. And not only so, but the progress of *recovery* from the disease involves analogous chemical changes in an opposite direction, showing that there is in the human system a wonderful power of restoring the injuries inflicted by disease. When we shall have obtained a clearer insight into the recondite processes by which repair is effected in the animal body, we shall be in a better position to assign to our experimental interferences their proper position either as helps or hinderances to this inherent *vis medicatrix.*"

In the treatment of the various forms of pneumonia Dr. Todd makes just discriminations. In the more active and acute forms he uses, as a diaphoretic, tartar emetic and opium; also the liquor ammoniæ citratis or acetatis in large and frequently repeated doses; applying at the same time counter-stimulants over a considerable extent of the surface of the chest, such as mustard, or flannels soaked in warm spirits of turpentine. In typhoid cases, he regards the free use of stimulants as of essential importance, and also regards it as of "immense advantage" to give quinine freely.

The closing lecture, "On the Therapeutical Action of Alcohol," is a remarkable production,—remarkable for the boldness of the author's views in the use of alcoholic stimulants, even in acute inflammations.

> "Alcohol," he says, "in some form or other, is a remedy whose value can scarcely, I think, be over-estimated, and one upon which, when carefully administered, I rely with the utmost confidence in a great number of cases of disease which are at all amenable to treatment."

Again he adds:—

> "Alcohol may be employed in all those diseases in which a *tendency* to depression of the vital powers exists; and there are no acute diseases in which this lowering tendency is not present."

It will be seen from the following paragraph that he discards the popular notion that alcohol causes inflammation or congestion:—

> "I apprehend that in all cases of brain affection from alcohol, the symptoms are due not to congestion nor to inflammation, but to a simple poisoning of the nerve fibre and nerve cell, by the spirits. It is the same with chloroform and sulphuric ether when inhaled. They act directly on the nerve fibre and nerve cell, and not by producing congestion. If you soak a living nerve in chloroform for a certain time, it will refuse to propagate the nervous force under chemical, mechanical, or electrical stimuli."

We have thus brought to a close our review of the last of the lamented author's productions. For his learning and ability we have ever entertained the most profound respect; few men, living or dead, have shed greater lustre upon our profession; and none certainly worked with a more ardent desire to arrive at truth. But the very brilliancy of his genius and the lustre of his name lead us to regret the more the *ultimatum* to which he was fast arriving, namely, that all diseases consist in depression of the vital forces, and that brandy is the remedy. In his life he was justly regarded as one of the great lights of the profession: in his death we fear he has bequeathed to us, in his "Clinical Lectures on Certain Acute Diseases," a doubtful legacy.

ART. IV.—*On the Diseases and Injuries of the Joints. Clinical and Pathological Observations.* By THOMAS BRYANT, F.R.S., Assistant Surgeon, Clinical Registrar, and Lecturer upon Operative Surgery at Guy's Hospital. 12mo., pp. 273. London, 1859.

THE English language does not possess a great, or even a respectable, work on the diseases and injuries of the joints. The medical profession is indebted, it is true, to a British surgeon for having laid, in a broad and enduring form, our scientific knowledge upon the subject; but the treatise which he published upon it was ushered into the world upwards of forty years ago, and has, therefore, notwithstanding the occasional additions of its illustrious author, become in great degree obsolete. How well the labors of Sir Benjamin Collins Brodie—for we need hardly say it is to him we refer—were appreciated in England and in the United States is known to every one familiar with the history of the literature of the profession within the last third of a century. In both countries it has passed through numerous editions, and has perhaps had as many readers as any monograph that ever appeared in the English language. Nevertheless, the work never was a great work; as a sketch of the diseases of the joints, graphic and true to nature, it was admirable, but beyond this it had no claims to the respect and gratitude of the practitioner. As a full and comprehensive digest of the existing state of the science, it was altogether defective, and for a long time unworthy of the advances, slow as they certainly have been, in this particular branch of the healing art. In comparison with the treatise of Bonnet it is a mere epitome, whose later improvements have failed to realize its earlier promises as an elaborate monograph, destined to occupy a permanent place in our literature. For the last twenty-five years or more, the English surgeon has rested quietly upon his laurels, and permitted a continental brother to snatch from him the chaplet which, in his earlier manhood, had sat so gracefully upon his brow. M. Bonnet, of Lyons, has produced the only great work extant upon the diseases and injuries of the joints. That this work, so creditable to medical literature, and so complete in its design and finish, should still be locked up in the French language, and therefore inaccessible to American and English students, may well be regarded as one of the great marvels of the day. It can only be explained upon the supposition, not that there are not plenty of men in the profession competent to translate it, but that there is no publisher willing to incur the hazard of bringing it out in a suitable form, accompanied as it is by a large atlas of plates, under the idea that the enterprise might not prove to be sufficiently remunerative.

When we say the work of Mr. Bryant is *respectable*, it is all that we can justly claim for it; and yet, in making this remark, we do not wish to be considered as captious or fault-finding. It has decided merit. Indeed, he himself does not claim for it any very exalted position. "It is not to be regarded," says he, "as a complete treatise upon these important and interesting subjects, but simply as the record of much personal investigation, and of some experience." Viewed from this stand-point we feel grateful to Mr. Bryant for his labors in a department where his countrymen have of late accomplished so little, and where American surgeons have not yet even broken ground, as if they were afraid to embark upon the study of a class of affections of which immense numbers of cases are everywhere met with in private and hospital practice, from one year's end to the other. The English writer, who, we suppose, is still a young man, has evidently enjoyed large opportunities for observing articular diseases and injuries, and—what is greatly to his credit—he has made excellent use of them, though not all the use that might have been expected. The principal defect of the work is its want of generalization and the meagreness of detail in his cases, which are seldom anything more than mere rapid outlines of what he saw at the bedside. In the hands of an older practitioner, these cases might have been readily elaborated into a great systematic treatise, more commensurate with the wants of the age and more creditable to English literature. The descriptions of Mr. Bryant of the causes and symptoms of the diseases of which he speaks are in general sufficiently graphic; but his pathological and practical deductions are often strikingly deficient, if not positively in arrear of the existing state of the science. Moreover, his style is not unfrequently awkward, and his language inaccurate or marked by grammatical blunders. These are matters, however, which will doubtless be corrected in future editions, enlarged and improved as they must be by further researches and a better appreciation of the wants of our literature.

The first topic discussed by Mr. Bryant is *synovitis*, which he divides into acute, subacute, chronic, and rheumatic. Not one word is said, so far as we can perceive, of the syphilitic variety of the disease, so liable to occur during the progress of the more severe cases of the tertiary form of that ruthless malady. We regard this as a great oversight, for which it would be difficult to account, inasmuch as articular syphilis must be sufficiently common at Guy's Hospital, of which Mr. Bryant is assistant surgeon. At page 25 he speaks of a form of *synovitis associated with gonorrhœa*, which, it is added, is most obstinate to treat. In the few comments which he makes upon the subject, he alludes to the fact that there are some surgeons who altogether deny the existence of such an affection as an independent lesion, while he states that they are often associated together, and that they are probably produced by the same cause. That the two complaints occasionally coexist, we readily admit, but that the poison of gonorrhœa ever induces rheumatism of the joints, is what we have never been able to believe, simply because we have never, in a practice of many years, had the slightest evidence of it. To come to any other conclusion has always seemed to us exceedingly absurd, seeing that gonorrhœa is universally regarded as a mere local malady. The complication alluded to by the author appears to be much more common in the damp and variable climate of England than in any other country; and we presume the subjects of it are generally persons of intemperate habits and of broken-up constitution, although no mention is made of the fact. Perhaps, too, most of such patients may be affected with a syphilitic taint of the system, either inherited or acquired. Such a supposition, at all events, derives some plausibility from the circumstance that the most efficient treatment, according to the author, is iodide of potassium with iron, remedies which exert little, if any, influence over gonorrhœa, and certainly not much over ordinary cases of rheumatism.

In the *treatment* of synovitis, as laid down by Mr. Bryant, we perceive nothing new or different from what has been inculcated heretofore. Our chief reliance is, of course, upon antiphlogistics, aided by recumbency and absolute rest of the parts, with the repeated application of leeches.

If we have any fault to find here with the author, it is that he does not take blood enough from the general system; but as an excuse for this, he might probably plead the inability of his class of patients to tolerate such spoliation, and, truth to say, it is not very often, even in the more robust subjects, that general bleeding is called for in ordinary cases of the disease. It is only when the attack is uncommonly violent or intractable that the lancet is, as a general thing, at all required. After the malady has been in some degree subdued, mercury comes in play, either in the form of blue pill, calomel, or the gray powder, in combination with Dover's powder, or, what we usually prefer, morphia and antimony, with a view to their diaphoretic and anodyne effects. The bowels should be moved by saline and other cathartics, and the diet should be regulated by the exigencies of each particular case, being abundant and nutritious when the patient is enfeebled, and the reverse when he is strong or plethoric. As the disease declines, recourse may be had to tonics, and to support of the joint by means of strapping. In the subacute form, blisters and iodide of potassium, with iodide of iron, are often serviceable.

In rheumatic and gouty synovitis, our chief reliance is upon remedies which act upon the blood, and thus remove the exciting cause of the disease. Among the best of these remedies are the alkalies, with colchicum and anodynes, saline purgatives, and, in cachectic subjects, tonics. The most reliable topical measures are hot fomentations and blisters in acute attacks, and in chronic the application of dry sulphur beneath a flannel bandage. Lemon-juice is regarded as serviceable by the author; but in our own practice we have never derived any appreciable benefit from its use, however protracted. We have ourselves, after proper depletion in cases of plethora, found the wine of colchicum, in drachm doses, with the addition of from one-half to one grain of morphia, given at bedtime, the most speedily efficacious treatment both in the gouty and in the rheumatic forms of the affection.

When the joint is greatly distended with synovial fluid, the repeated application of blisters, conjoined with minute doses of mercury, will be found to be the most available means. Evacuation of the fluid can only be required when the absorbents are unwilling, or absolutely refuse, to perform their proper functions. When pus forms, the sooner it is let out the better. Its retention will inevitably lead to serious structural changes. We have enjoined the importance of this practice for nearly a quarter of a century, in our annual courses of lectures.

The author treats of what he, in common with Sir Benjamin Brodie and others, calls "the *pulpy and gelatiniform disease* of the synovial membrane." The true character of this lesion has long been a matter of dispute, but there can be little doubt that it is simply a softened, thickened, and degenerated condition of the synovial membrane, in consequence of protracted inflammation, attended with inordinate interstitial deposits of semi-organized plasma. Such alterations may follow upon any long-continued inflammation, whether simple, rheumatic, gouty, strumous, or syphilitic, and are always extremely prone to terminate in complete anchylosis or destruction of the functions of the joint. The most prominent symptoms are great stiffness of the affected articulation, although there is usually considerable motion, slight aching pain, with an occasional dart or stitch, more or less tumefaction of the structures around the joint, with a peculiar doughy, brawny, or inelastic sensation on manipulation, and a marked accumulation of synovial fluid. The general health is ordinarily a good deal impaired. The disease may last for years. Abscesses, followed by intractable sinuses, often form, and greatly aggravate the suffering.

The principal remedies in the pulpy degeneration are mild mercurials, as the gray powder, or the bichloride, and Dover's powder, given with great caution, a properly regulated diet, absolute repose of the joint, as insured by means of pillows, sand-bags, or splints, moderate leeching, and blistering. When the inflammation and swelling have been greatly lessened, the cure is completed by strapping the joint, according to the method originally suggested and so successfully practiced by the late Mr. John Scott, of England, with strips of linen spread with the compound mercurial ointment or the ammoniac and mercurial plaster. Any tendency to anchylosis or contraction is counteracted with the angular screw splint. The general health is improved by tonics and nutritious diet. When the disease is irremediable the affected bone is excised, the worst cases alone being subjected to amputation.

As might be supposed, the diseases of the *articular cartilages* and of the articular extremities of the bones claim a full share of attention in the treatise before us. After briefly adverting to the mode of nourishment of the articular cartilages, the author proceeds to give an account of their diseases, the principal of which are atrophy, granular degeneration, fatty degeneration, and fibrous degeneration. Each of these lesions is described very briefly but sufficiently graphical, and they are regarded as being of a secondary character, or the result merely of an extension of disease from the surrounding parts, especially the bones. The existence of primary disease in the articular cartilages is, it is true, admitted as an occasional occurrence, but that is all. Great exception might, we think, be taken to such a sweeping conclusion, but we pass it by, not having time to do the subject justice. However induced, the malady generally ends in the destruction, partial or complete, of the affected cartilage, and also, as a necessary consequence, in loss of function of the joint. The diagnosis is always obscure, and the treatment antiphlogistic.

The diseases of the *articular extremities of the bones* are generally of an inflammatory character, the morbid action being either acute or chronic, spontaneous or the result of injury, strumous or syphilitic. It may terminate, in the healthy subject, by resolution, and in a similar manner in the cachectic, under proper treatment. The affected bone may become carious, necrosed, or the seat of an abscess. Unless the malady is limited to a particular portion of the bone, the cartilages soon become involved in granular degeneration, and, the effects gradually spreading, the other structures of the joint eventually share a similar fate, followed by complete annihilation of function, if not by loss of life.

Mr. Bryant thinks that the majority of the cases of affections of the articular extremities of the bones, which are described by surgeons as strumous or scrofulous diseases of the joints, depend upon chronic inflammation of the bones. He asserts that it is "quite exceptional to find in any bone that yellow, cheesy material which pathologists so well know as strumous deposit;"—"and if, then, we confine," he adds, "the term strumous disease of a bone, as I believe we should, to such instances only where such a deposit is present, as surgeons we shall seldom have occasion to employ it." We agree entirely with the author in his opinion respecting the inflammatory character of this class of affections; and what he says about the absence of "yellow, cheesy deposit," is unquestionably also true; but such absence does not, according to our notions of the pathology of these diseases, prove that they are not scrofulous; for it is very well known that strumous disorders are liable to occur in various parts of the body, as in the eyes and eyelids, the skin and synovial membranes, without any appreciable deposit, such, for example, as occurs in the lungs in confirmed phthisis. There is a strumous something here, a scrofulous atmosphere, or tubercular dyscrasia, or whatever else we may call it, which leaves its specific impress upon the affected structures, and effectually does its work, and that in a manner altogether different from ordinary inflammation. Coxalgia, white-swelling, psoas abscess, and Pott's disease of the spine, all appertain to this class of lesions, and every intelligent surgeon knows how difficult it is to arrest them when they have once fairly commenced.

The symptoms and diagnosis of these chronic affections are very imperfectly discussed in the pages of Mr. Bryant. The most valuable phenomena, practically considered, are slight but gradually increasing pains of a dull, aching character; impairment of motion, swelling and alteration in the contour of the joint from effusion of synovial fluid and deposits in the extra-articular structures; more or less tenderness on pressure; and start-ings or twitchings of the limb. The general health, perhaps at first good, ultimately suffers. The disease nearly always occurs in weakly subjects. Mr. Bryant justly cautions practitioners not to disregard the earliest complaint of pain or aching of a joint in delicate strumous children. Parents too often ascribe such suffering to the effects of what are vulgarly called "growing pains," and the consequence is that the disease upon which they depend too frequently escapes attention at a time when alone it admits of thorough eradication.

We find nothing new in respect to the management of this class of affections. Mr. Bryant very properly calls attention to the great necessity of constitutional treatment, regarding it as of paramount importance to supply power to the patient to resist the morbid action and to shake off its effects. For this purpose the different preparations of iron, especially the iodide, in the form of syrup, or the phosphate, in union with phosphate of lime, cod-liver oil, a good diet, and bracing air, are to be employed. Sometimes a mild mercurial course is beneficial, the bichloride and gray powder being the most suitable articles. The most important topical remedies are absolute rest, with elevation of the affected limb, cold or warm applications, according to the relief they confer, and the occasional use of a few leeches when there is much pain, heat, or tenderness. In the more advanced stages of the complaint, strapping and mercurial ointment will be useful. If matter form, it must be promptly evacuated. Necrosed bone must be removed.

The author does not mention, in the treatment either of this or any other form of joint disease, issues made with the actual cautery. From his silence upon the subject, it may be assumed that he has no experience with them; a very singular circumstance, surely, considering the wonderful influence which this mode of counter-irritation exerts over the progress of all chronic articular lesions, particularly over such as are of a strumous nature.

Anchylosis and Amputation or Excision form the subjects of the eighth and ninth chapters; but the materials, although in the main sound, are so commonplace that we shall not detain our readers with an account of them. All that Mr. Bryant says upon these topics may be found quite as well expressed in any systematic treatise on surgery, English or continental. The same is true of "Loose Bodies in the Joints," treated of in the next chapter. When surgical interference is rendered necessary, Mr. Bryant is, of course, an advocate of subcutaneous extraction, an operation which he describes in connection with the name of Professor Syme, without any allusion to that of M. Goyrand, of Aix, who either preceded the Scotch surgeon, or hit upon the same process about the same time.

A short chapter is devoted to "*Inflammation of the Cellular Tissue* *external to the Joints,* and to *Bursitis,*" and is one of the most interesting in the book. The twelfth chapter, and the last which is appropriated to articular diseases, properly so called, treats of historical affections, the whole subject of which is dispatched in about three pages.

Part Second of the work occupies nearly one hundred pages, being taken up with the consideration of the injuries of the joints, as sprains, wounds, and dislocations, every articulation receiving some share of attention. A perusal of this portion of the book will prove highly instructive to young practitioners, as it is extremely valuable on account of its conservative precepts. It is abundantly illustrated by the author's cases.

In bringing our notice of Mr. Bryant's work to a close, we beg leave to reiterate what was stated at the beginning, that, while it is not such a performance as the exigencies of this particular department of science demand at this advanced day, it yet comprises a large amount of useful and instructive matter, conveyed in a plain and simple style, adapted to the comprehension of the humblest capacity. We hope that the author may find leisure to elaborate it into a great treatise that shall be creditable alike to himself and to his country.

ART. V.—*De l'Hématocèle Rétro-Utérine et des Épanchements Sanguins non Enkystés de la Cavité Péritonéale du Petit Bassin, considérés comme des Accidents de la Menstruation.* Par AUGUSTE VOISIN.

On Retro-Uterine Hematocele and Non-encysted Sanguineous Effusions of the Peritoneal Cavity of the Pelvis, considered as Accidents of Menstruation. By AUGUSTUS VOISIN, M.D., etc. With a Plate. 8vo., pp. 468. Paris: J. B. Baillière and Son, 1860.

LOOKING at the large size of this book, and the infrequency of the disease of which it treats, we need hardly say that its author has completely exhausted his subject, having drained it to the very dregs. He has left no stone unturned in pursuit of his facts, but has thoroughly explored every nook and corner of the literature of the profession likely to throw any light upon retro-uterine hematocele and bloody effusions into the pelvic cavity. His first inquiries were embodied in his Inaugural Dissertation, which was subsequently elaborated, step by step as it were, into the present monograph, a pretty octavo of nearly five hundred pages. As books of reference, such productions are invaluable, especially to lecturers and writers, affording as they do a complete history of the respective subjects which they discuss. We are therefore greatly indebted to the talented and accomplished young author, M. Voisin, for the able and faithful manner in which he has discharged his duty in the work of which we are about to give a brief notice. It is doubtless only the precursor of other and more valuable treatises.

M. Voisin divides the historical portion of his work into two parts: the first comprehending all the cases of retro-uterine hematocele which occurred prior to 1850, and which, scattered through the different medical journals, were published by their respective observers without any idea of the real nature of the disease they had described; and the second, commencing at that period when Professor Nélaton gave to this affection a definite position in nosology. Passing by this portion of the monograph as possessing more of a literary than a practical interest, we plunge at once into *medias res*, giving a close analysis of such parts as shall tend to place the contents of the work fairly before the reader.

The term retro-uterine hematocele is employed to designate an encysted tumor containing blood, situated in the peritoneal cavity of the pelvis, between the uterus and the rectum, the invariable result of accidents of menstruation. The disease is by no means frequent, there being but fifty cases on record. Menstrual disorder may also give rise to a hemorrhage into the same situation; but the loss of blood is so rapid that time is not afforded for its becoming encysted, and the patient consequently dies either from prostration or from peritonitis. The circumstances which predispose to the formation of retro-uterine hematocele relate to the condition of the patient at the time of its occurrence. The age is mentioned in thirty-four cases, the average being thirty years, at which period the venereal passion is most strong. The temperament of ten subjects was nervous, of four sanguine, and of one hysterical. The alteration of the blood which takes place during eruptive fevers seems to predispose to pelvic hemorrhages, and in a majority of the cases the menstrual flux was abundant, and of long duration, the blood was frequently clotted, and the act of menstruation was painful. In twenty-five instances, the time of the first appearance of menstruation was noted, the average age being between fourteen and sixteen years. Constipation, great sexual indulgence during or soon after menstruation, and blows upon the pelvis, may also give rise to the affection.

The immediate *causes* of retro-uterine hematocele may be classed under three heads, namely: congestion and hemorrhage from the ovarian vesicles arising during menstruation; reflux of blood from the uterus into the Fallopian tubes and the peritoneal cavity; hemorrhage from the Fallopian tube, the blood issuing from the mucous membranes of the oviduct and uterus, and from the proper tunic of the Graffian vesicle during the act of menstruation. The first cause is by far the most frequent, and three distinct pathological conditions may produce it, namely: venous congestion of the ovary and of its capillaries; a condition of the blood characterized by an increase or diminution of its fibrin; and, lastly, the hemorrhagic diathesis. Tubal hemorrhage is rare, but is favored by the physiological sanguineous flow, of which the tube is the seat during menstruation, and at least two cases may be traced to this cause. But one case can be assigned to reflux of blood from the uterus into the Fallopian tube and into the cavity of the peritoneum, and for its production the body of the uterus must be flexed upon its neck, thus affording an obstacle to the blood flowing into the vagina. Being thus retained, the cavity of the uterus becomes dilated, and the blood being unable to escape at the os, passes into one or both of the oviducts.

Non-encysted bloody effusions may arise from the same causes as retro-uterine hematocele, but, unlike the latter, may be produced by a varicose condition and rupture of the veins on the inferior surface of the ovary. In this case large vessels being involved, the loss of blood is great, and produces death from exhaustion or from peritonitis.

The relative frequency of the points of origin of the blood in cases of retro-uterine hematocele is difficult to be determined, on account of the resulting inflammation; but in the instances in which it was discovered, it was found that it issued from the ovary six times, and twice from the Fallopian tubes. In the cases of non-encysted effusions, the seat of the bleeding was in six cases the ovary, in three the uterine cavity, in four the Fallopian tubes, and in four ovarian varix.

The *symptoms* of non-encysted sanguineous effusions into the pelvis come on suddenly in the midst of good health, or coincident with menstruation. The patient is seized with excruciating pains in the lower portion of the abdomen, the pulse is small and almost imperceptible, the skin is cold and blanched, the belly is hard and tense, hiccough and vomiting supervene, and finally syncope or complete collapse sets in, followed by death, in all cases, in less than twelve hours, from peritonitis.

The symptoms of retro-uterine hematocele may come on suddenly or gradually, the patient soon complaining of great pain, aggravated by the slightest pressure or movement, and nearly always limited to the pelvic cavity. It increases at every menstrual period, and is sometimes complicated with a very fatiguing sensation of weight at the anus. A few days having elapsed, a tumor may be detected above the pubes, usually larger on the right side of the hypogastrium than on the left, at first soft and fluctuating, and gradually becoming hard and irregular. It may be felt through the vagina pushing forward the neck of the uterus, and flattening the rectum behind, stretching forcibly the walls of the vagina, and very often occupying the inferior strait, being about twenty lines distant from the vulvar orifice. The neck of the uterus is carried forcibly forward against the posterior surface of the pubic symphysis, and micturition and defecation are very difficult. The constitutional symptoms are those of peritonitis, and consist of nausea, vomiting, intense fever, abdominal pains, the Hippocratic countenance, and a blanched appearance of the surface. From the very moment of its formation, the tendency of the tumor is to diminish; but nature requires some time to effect the absorption of the blood, and in some cases the fibrin not being taken up, becomes mixed with the serum poured out by the inflamed peritoneum, and the result is a black, viscous fluid resembling molasses. The morbid condition of the mixture excites inflammation of the retro-uterine pouch, and may provoke ulceration of one of its walls, and thus lead to the spontaneous evacuation of its contents.

The *duration* of retro-uterine hematocele is very variable. The period of the disappearance of the tumor in ten cases of cure was noticed nine times, being in one six weeks, in three three months, in two four months, in two six months, and in one eight months. Of ten cases of death, in all but one was the period of this termination reported; from which we find that three cases died in three months, one in four months, one in eight months, one in fifteen days, one in ten days, one in seven days, and one in four days. In comparison with a cure, death is very infrequent, and when the case is not interfered with, a cure is the rule, while operations practiced for the evacuation of the fluid have frequently led to death, or excited symptoms of purulent infection.

When the case is left to nature for a cure it may terminate in several ways—1st, by the absorption of the tumor; 2dly, by evacuation of the liquid into the rectum; 3dly, by opening into the vagina; 4thly, by the effusion of the fluid into some portion of the healthy peritoneal cavity; and, 5thly, by suppuration of the contents of the tumor. The first termination took place fifteen times out of twenty-five cases not subjected to surgical interference, and in seven cases is the time of this occurrence mentioned, being in two after one month and a half, in three after four months, in one after six, and in one after eight months. The absorption takes place only during the menstrual period, and repose in bed is absolutely necessary for its proper performance. As the tumor diminishes, the fever abates, the pains lose their acute character, defecation and micturition become more easy, appetite returns, and the general health becomes greatly improved. Evacuation of the contents of the tumor by the rectum took place six times out of twenty-seven cases in which the mode of termination is noted. In all these high constitutional disturbance existed, and two of the patients died. Evacuation of the fluid through the vagina occurred in three instances, and in all with a happy result. Effusion of the blood into the peritoneal cavity took place in four cases, and all died of peritonitis. Suppuration of the contents of the sac is very rare, and requires surgical interference, being characterized by the ordinary local and general symptoms of this morbid action.

The *diagnosis* of non-encysted effusions of blood into the pelvis is somewhat difficult, as a few of the symptoms resemble those of poisoning; and although there are evident signs of an internal hemorrhage, yet it is almost impossible to say from what organ the blood proceeds. The accident may, however, in the generality of cases, be known by its rapid course and coincidence with menstruation; atrocious abdominal pains; a small, soft pulse; hiccough; vomiting; swelling of the belly; coldness of the surface; rapid blanching of the skin, and syncope.

The diagnosis of retro-uterine hematocele rests upon the abundance of the menses; the coincidence of the appearance of the affection and menstruation, which is most often abnormal; the rapid progress of the symptoms, which resemble those of peritonitis; the large and quick development of the uterus, and the tilting forward of its neck; the presence of a tumor in the utero-rectal cul-de-sac; and the character of the pains, which the patient compares to those of labor.

The author enters very fully into the differential diagnosis between retro-uterine hematocele and peri- and retro-uterine abscess, ovaritis, ovarian cysts, encephaloid, extra-uterine fœtation, fibrous tumors of the uterus, retroversion and retroflexion of the organ, varix of the broad ligaments, fæcal accumulations, and other affections; and then discusses the question as to the tumor being intra-peritoneal, extra-peritoneal, or both, and arrives at the conclusion that it is always contained in the peritoneal cavity, no well-authenticated case having been reported to disprove this position. As our limits are nearly exhausted, we must refer the reader to the work itself for many interesting details, which our short space prevents us placing before him.

The *treatment* is divided into prophylactic and curative, but in regard to the former it is almost impossible to put it into practice, as it is difficult to foresee that a woman may become the subject of an intra-pelvic hemorrhage, or of a retro-uterine hematocele. The conditions favorable to the production of one or the other of these affections are a passionate, sanguineous temperament; painful, irregular, and very copious menstruation; and a varicose condition of the veins of the inferior extremities, the anus, or the vagina. Moreover, as these accidents have been produced by excessive coitus, particularly at the time of menstruation, we should advise abstainment from this during the catamenial period, and for some days after the flow has ceased. The curative treatment of non-encysted sanguineous effusions consists in endeavoring to arrest the loss of blood, and for this, besides other measures, small bleedings of six or seven ounces may be resorted to. The remainder of the treatment resolves itself into the application of cold to the belly, sinapisms to the upper extremities, absolute rest, and the avoidance of all excitement.

The curative treatment of retro-uterine hematocele may be either surgical or medical, the former consisting in evacuating the contents of the sac through the vagina, either by puncture with a trocar or by incision, and afterwards injecting, several times a day, tepid water. Or, after an opening has been made, a gum-elastic tube may be introduced, which favors a constant discharge, and through which injections may readily be made. In any case, the patient must be confined to her bed until a cure has been effected. The medical treatment consists in endeavoring to prevent new hemorrhages by enjoining absolute rest, keeping the pelvis well elevated, the application of cold compresses to the hypogastrium, and of revulsives to the upper extremities, and the internal administration of acids and astringents. To promote an absorption of the tumor, cataplasms may be applied to the belly, and after the cessation of acute symptoms, purgatives may be administered, and flying blisters be applied to the hypogastrium. The anæmic condition of the patient may be improved by the exhibition of iron, tonics, and a generous diet, and peritonitis is to be combated by venesection, calomel, opium, and vesicants.

The medical treatment contrasts most favorably with the surgical. Thus of twenty-seven cases subjected to the former only five died, whereas of twenty cases in which the sac was evacuated but fifteen recovered. The remainder of the work, comprising one hundred and twelve pages, is taken up with the details of thirty-six cases of this affection.

ART. VI.—*Traité d'Anatomie Chirurgicale et de Chirurgie Experimentale.* Par J. F. MALGAIGNE, M.D., Professeur, etc.

Treatise on Surgical Anatomy and Experimental Surgery. By J. F. MALGAIGNE. Two volumes, 8vo., pp. 784–880. Paris, 1859.

MONS. MALGAIGNE needs no special introduction to our readers, as his name has long been familiar to the profession on this side of the Atlantic. His great treatise on Fractures and Dislocations, the first volume of which was so ably translated and edited a few years ago by Dr. Packard of this city, his Operative Surgery, his celebrated edition of the works of Ambrose Paré, and his various contributions to the periodical press, especially his papers on the statistics of hernia, have been widely circulated in this country, and have given him an American reputation. A professor in the School of Medicine of Paris, he is one of the surgeons of the

Beaujon Hospital, a member of the Imperial Academy of Medicine, and an officer of the Legion of Honor; positions which he has fairly won by his indomitable industry, his eminent talents, and his faithful services in the cause of science and humanity. The present edition of the Surgical Anatomy is the second, the first having been published nearly twenty years ago, and soon after reprinted at Brussels, whence many copies found their way into the United States. It has been thoroughly revised and greatly enlarged, the principal additions having been made to the chapters on the eye, general anatomy, the arteries and veins, the nervous system, and the history of the blood. The sections on special anatomy, hernia, luxations, and fractures have also been greatly extended; in fact, nearly all of them have been completely remodeled, and enriched with the results of new dissections, experiments, and deductions. The work, in its present garb, is an immense storehouse of facts and erudition, and will prove an enduring monument to the author's talents, industry, and research. Yet, notwithstanding this, it is anything but a great work on surgical anatomy; it takes in entirely too much ground; it is spread over too great a surface; in short, it is diluted with all things relevant and irrelevant; and had M. Malgaigne written a work on anthropology, he could not have missed his aim more sadly or more effectually. When we declare that he has incorporated in the present edition an immense amount of matter on general anatomy, and upwards of one hundred and fifty pages on the physical, chemical, and vital properties of the blood, the reader will agree with us that he has strangely, and, as far as the legitimate topics of his treatise are concerned, most unfortunately wandered from his subject. Surgical anatomy requires no such aids or extrinsic embellishments. The facts with which it deals are of a more circumscribed nature, and hence all such material only serves to clog and hinder it. Whether we apply to it the term surgical, topographical, or regional, it is of no consequence in a practical sense; it treats of one thing, and of one only, namely, the mutual relations of parts, or the relative position which one structure bears to another, considered in its application to surgical operations and accidents. Whatever, therefore, is foreign to these points, is so far foreign to the subject, legitimately considered; and regarded in this light, the work of Malgaigne must be viewed as a prodigious failure. No man living, unless it be the author himself, will ever think of wading through such a wilderness of matter to obtain a just idea of surgical anatomy; and yet, as was stated previously, the work is a great work, destined to live as long as anatomical science shall have a place in human pursuits. The title is evidently a misnomer: it should be, not a treatise on surgical anatomy and experimental surgery, but a treatise on histology, surgical anatomy, and surgical pathology

We have no disposition, after what has been stated, to give an analysis of this production; to do so would far exceed the limits which we could afford to such a subject. Let those who feel inclined obtain the work, and study it in detail, or such portions of it as their peculiar wants may require. As a book of reference, it is invaluable; as a book to work by in the dissecting-room, detestable.

The history of surgical anatomy is not without interest. It is of modern date, extending no farther back than the commencement of the present century. John Palfin, who died in 1730, had, it is true, some faint conceptions of it, but they were obscured by so many clouds that they failed to make any impression whatever upon his contemporaries and immediate successors. Desault, one of the representative men of his age, was the first, toward the close of the eighteenth century, to give regular and systematic courses of lectures on surgical anatomy, but as he never wrote upon the subject, the influence of his teaching must have been limited, in great degree, to his own countrymen and to the few foreigners who resorted for instruction to the French capital. The "old cur," as he was familiarly called by his pupils, never published anything except a few detached papers; and had it not been for his gifted friend and great disciple, Bichat, who was destined to play so conspicuous a part in the science of general anatomy, of which he was at once the founder and the greatest promoter, even the clinical labors of Desault would probably have been lost to the world.

The first professed work on surgical anatomy of which we have any knowledge was published in 1811, at Weimar, by J. C. Rosenmüller, the author of a small but popular work on descriptive anatomy, and the discoverer of the little muscle connected with the lachrymal sac, afterwards described by the late Professor Horner, of this city, and almost simultaneously by Professor Lippi, of Rome. Rosenmüller's work consisted mainly of an atlas of plates, nearly of the size of life, with a very meagre text. It was issued in three parts, under the title of "Chirurgisch-Anatomische Abbildungen für Aerzte und Wundaerzte." Tiedemann's great and unrivaled work on the arteries appeared at Heidelberg in 1821, and although it was not strictly surgical, it nevertheless belongs rather to this part of anatomy than to the purely descriptive. It was issued in folio with a quarto volume of text, and bears the title of "Tabulæ Arteriarum Corporis Humani." The illustrations are perfect representations of nature, and will never be likely to be surpassed by the efforts of succeeding anatomists.

In 1825 commenced a new era in surgical anatomy, signalized by the publication of the excellent monograph, in two octavo volumes, of M. Velpeau, then just entering upon his brilliant and successful career as a teacher and an author. The work, which was accompanied by an atlas of illustrations, and which bears the title of "Traité d'Anatomie Chirurgicale, ou d'Anatomie des Régions, considérée dans ses rapports avec la Chirurgie," passed through a second edition in 1833, and was translated and published at New York by Dr. Sterling, of that city. The American edition has long been out of print. Within a few years after the appearance of Velpeau's treatise, a work on surgical anatomy was issued by M. Milne Edwards, of Paris, since so well known as a physiologist and zoologist; and almost simultaneously with the French edition the profession was favored with a translation of the work by Mr. Coulson, of London. This translation was shortly after republished in this city, with notes by the late Professor Webster. The "Traité d'Anatomie Topographique," by Blandin, appeared at Paris in 1827, and was afterwards rendered into English by the late Dr. Sidney A. Doane, of New York. The work has no pretension to greatness, and has never passed to a second edition. Its plates, however, were admirable. In 1843 Nuhn, of Mannheim, published his "Handbuch der Chirurgischen Anatomie," a small production, unknown on this side of the Atlantic. In the same year J. E. Petréquin, of Lyons, favored his countrymen with an octavo volume on the subject, entitled "Traité d'Anatomie Medico-Chirurgicale et Topographique." Ross, of Leipsic, and Roser, of Tübingen, published their treatise on surgical anatomy, respectively, in 1848 and 1854.

Among the more recent publications on surgical anatomy, besides the treatise of Malgaigne, whose title heads this article, are the "Handbuch der Chirurgischen Anatomie," by F. Führer, of Hamburg, in two octavo volumes, with an atlas of twenty-two copperplates, (1857;) "Anatomie Chirurgicale Homalographique, ou Description et Figures des Principales Régions du Corps Humain," by E. Q. Le Gendre, (1858;) and the "Handbuch der Topographischen Anatomie," by Professor Hyrtl, of Vienna, in two large octavo volumes, the third and last edition of which appeared in 1857.

All mention has hitherto been purposely omitted of the works of British authors upon this subject, because it is our object to give a separate though brief notice of them here, apart from the productions of other nations. Few and imperfect as these works, with a single exception, are, it cannot be denied that they have exerted a most powerful influence upon the surgery and surgeons of Great Britain and the United States. The treatise of Allan Burns, entitled "Observations on the Surgical Anatomy of the Head and Neck," is known to every cultivator of anatomico-chirurgical science, and has long since become classical. Issued at Glasgow, in 1811, where Mr. Burns, then a young man, was a private lecturer on anatomy and surgery, it attracted at the time of its appearance universal attention among British teachers and practitioners, not less by the novelty and interest of the subject than by the charming style and deep eloquence infused into it by its able author. From that period dates a new era in surgical anatomy in the British empire, and also in the United States, where Mr. Burns's work was reprinted in 1823, under the supervision of that excellent anatomist, the late Granville Sharp Pattison, then Professor of Anatomy in the University of Maryland, and subsequently in the London University, the Jefferson Medical College, and, finally, in the University of New York. No one can read the work of Mr. Burns without being satisfied that he was a man of genius, and without being inspired with increased enthusiasm for the study of surgical anatomy and operative surgery. It was from an attentive study of its pages, everywhere so opulent in facts and suggestions, that our illustrious countryman, Dr. Mott, was seized with the conviction of the feasibility of ligating the innominate artery; a feat which he so admirably executed in 1818. The work of Mr. Burns deserves to be reproduced among us in a new form for the benefit of the rising generation of surgeons, many of whom, there is reason to believe, have never heard even of the name of the distinguished Scotchman, much less read his book. Had Mr. Burns not been cut off early in life by the ruthless hand of disease, the "Observations on the Surgical Anatomy of the Head and Neck" would no doubt have been followed by other volumes, until he would have traversed the entire body. As it is, we must be grateful for what he has left us.

We must not forget here to bestow a passing tribute of respect upon a laborious and accomplished Irish surgeon, who issued, cotemporaneously with Mr. Burns, a small treatise on Surgical Anatomy, the first part only of which, however, was ever published. We allude to the late Mr. Abraham Colles, of Dublin, for nearly fifty years an eminent teacher and practitioner in that city, and a gentleman who has enriched his profession by various valuable contributions. The work was republished in Philadelphia in 1820, and was for a long time a familiar companion with students in the dissecting-room.

Mention might also be made in this place of another admirable monograph by another Irish surgeon, namely, "The Surgical Anatomy of the Arteries," by the late Dr. Harrison, Professor of Anatomy in Dublin; but we are admonished to bring this article to a close, and shall therefore only add that, with the exception of Mr. Quain's splendid work on the same subject, a production of much later date, it is still the best treatise on the topographical relations of the arteries, in the English language.

Finally, in 1850 appeared the excellent work of Mr. Thomas Morton, entitled "The Surgical Anatomy of the Principal Regions of the Human Body," in one royal octavo volume of about four hundred closely printed pages, and illustrated by a number of superior plates and wood-cuts; the whole constituting, in our opinion, the most valuable and important contribution to topographical anatomy yet made by any British surgeon. The work is written in the clearest possible style, and reflects very great credit upon the knowledge and judgment of its late distinguished and lamented author. As a practical treatise, and a working-companion, it is far superior to any production of the kind with which we are acquainted.

The splendid volume on "Surgical Anatomy," by Mr. Joseph Maclise, was published about the same time as that of Mr. Morton, and was speedily reproduced in this city by the Messrs. Blanchard & Lea. It is accompanied by sixty-eight plates, drawn upon stone, and executed in admirable artistic style, the author having been his own lithographer. The treatise, as a whole, possesses many excellencies, but in clearness of description and practical adaptation it is inferior to that of Morton, and far less readable and instructive. It forms, nevertheless, an extremely valuable contribution to the science of topographical anatomy as taught in the schools of the present day.

Many excellent articles on surgical anatomy are contained in Todd's Cyclopedia of Anatomy and Physiology, written, for the most part, by men of distinguished ability and sound practical sense, and consequently worthy, as is everything else in that great work, of an attentive perusal.

The physicians of this country have not been unmindful of the value and importance of a knowledge of surgical anatomy, but they have always labored under the disadvantage of not having a good native work upon the subject; one which shall not, on the one hand, be too meagre, nor, on the other, too full for the purposes of the student; in other words, one that shall serve as a ready companion for the dissecting-room. That such a work, if properly constructed, would be well received by the American profession at this time, does not admit of any reasonable doubt, and it is equally certain that there are many men in the country well qualified to undertake it.

In concluding this brief, and, we fear, imperfect sketch of the history of surgical anatomy, into which we have been betrayed by the work of Malgaigne, we must not neglect to state that Dr. William Anderson, who, we believe, was a Scotchman, published, in 1822, at New York, the first part of a System of Surgical Anatomy; that Dr. N. R. Smith, of Baltimore, wrote the Surgical Anatomy of the Arteries, a quarto volume, of which a second edition was issued in 1835; and that Dr. William Darrach, of this city, is the author of a small brochure on the Surgical Anatomy of the Groin.

ART. VII.—*Pinel: A Biographical Study.* By his Nephew, Dr. CASIMIR PINEL. Forbes's Journal of Psychological Medicine and Mental Pathology, April, 1860.

PINEL, the great medical philanthropist, was born at Saint-Paul-Capdejoux, France, April 20, 1745. Hoping that he would at some future day enter the church, his father bestowed upon him an excellent theological education, and was well repaid by the sincere piety and interest which his son manifested in his studies. At the age of twenty-two, however, Pinel renounced all idea of an ecclesiastical profession, and repaired to Toulouse, where he studied mathematics, and delivered lectures on philosophy. It was at this period that he wrote his thesis "On the Exactitude which the Study of Mathematics gives to the Judgment in its Application to the Sciences," which was very favorably received. A short time after he entered the Medical School at Toulouse, where, in 1773, after a brilliant examination, the degree of doctor of medicine was conferred upon him.

Longing for a greater field of knowledge, Pinel set out for the celebrated University of Montpellier, where, as at Toulouse, he soon attained the degree of doctor. As a means of support he entered a respectable family as tutor, and employed his leisure moments in composing theses for the aspirants for graduation.

In 1778, he left Montpellier for Paris, where he became a constant attendant at the hospitals, and wrote for several periodicals; among others the *Journal de Paris*, through whose medium he soon established a reputation as an able medical writer. In 1782, he assumed the editorship of the *Gazette de Santé*, in which appeared a portion of his treatise on Hygiene, and in 1784 translated, from the English, Cullen's "Institutions of Medicine." During the three following years he devoted much of his time to translations of works on chemistry, anatomy, surgery, materia medica, and pharmacy, and made many valuable literary contributions to the Academy of Sciences at Paris.

In 1783, owing to the loss of a friend who became a maniac on the subject of patriotism, Pinel devoted his whole attention to the study of mental aberration, and for five years pursued his observations in the *Maison de Santé Belhomme* with untiring ardor.

When not occupied in the manner just specified, much of his time was employed in writing articles relating to mental disorders, which appeared in the *Gazette de Santé*, still under his control. In 1791, he obtained the prize offered by the Royal Society of Medicine, for an essay "On the Most Efficacious Means of Treating Invalids who become Insane Before Old Age." The ability of this article was highly instrumental in securing to him the appointment which was conferred upon him the following year, of chief physician to the Hospital of Bicêtre. Then it was that he began that great and laudable reform which posterity should ever recognize with gratitude and veneration. It would be impossible for us, in our more enlightened age, to form even a faint conception of the wretched condition of the lunatic asylums at this period, and we cannot do better than to transcribe the description of them given by the author of this biography:—

> "If we picture to ourselves low, damp, and infected dungeons, without light or air, containing a miserable stump-bed, or a rotten straw mattrass laid on the stone floor; if we imagine human beings naked, or covered with rags, nearly always furious, chained and shut up in these places of desolation and misery, real tombs, which they never left but for their last resting-place; if we conceive ferocious keepers, chosen from among convicts, treating these beings as brutes, making use of the most barbarous expedients, overwhelming them with injuries, mocking them with insulting jibes, mercilessly beating or waging with them terrible and often sanguinary struggles, throwing down before them disgusting and insufficient nourishment, leaving them without water to quench their thirst, or clothing to protect them from the cold of winter, and exposing them in this sad condition for the amusement of curious visitors; if we imagine these unhappy beings, believed to be incurable, abandoned by their families, deprived of medical care, pale, ghastly, and haggard, stagnating in their own defections, groaning under the weight of irons which lacerated their limbs, emaciated by repeated blood-letting, excited by their horrible sufferings and the inhuman treatment to which they were subjected, we shall then have a very incomplete idea of the frightful state of lunatic asylums in general, and of Bicêtre in particular, at this epoch."

In that revolutionary period, when a man's lightest action was canvassed and misinterpreted, Pinel was compelled to combat even more than ordinary difficulties and obstacles in the execution of his great enterprise.

The government was suspicious, and thought that in the request to grant some little freedom to lunatics there might be a latent plot, which would promote the interests of royalty and endanger those of the republic; so that it was not until after many struggles and oft-repeated petitions, that Pinel was permitted to liberate the insane from their fetters. This laudable action has been beautifully commemorated in a picture placed in the Academy of Medicine at Paris.

After an attendance of four years duration at the hospitals of Bicêtre and Salpétrière, Pinel published the results of his observations in his *Traité Medico-Philosophique sur l'Alienation Mentale.* At the same time appeared a work entitled *De la Philosophie de la Folie,* by Daquin, Pinel's contemporary. Daquin's friends claimed for him priority in the moral treatment of the insane, and pronounced his book to be infinitely superior to that of Pinel, a judgment as absurd as erroneous, for although it contains some statements worthy of notice and belief, they are so enveloped in a mass of worthless matter as to remind one forcibly of Virgil's mariners—"*Apparent rari nantes in gurgite vasto.*"

Pinel's work wrought a great reformation in the condition of lunatics. He introduced kind treatment, recommended moral remedies, and established a regular police in the asylums. He regarded physical treatment of minor importance, condemned bleeding, and strongly advocated delay. "What art cannot effect," he said, "time may accomplish."

In 1798 appeared Pinel's *Nosographie Philosophique*, which caused a complete revolution in the medical literature of the day, and for twenty years was the sole guide of physicians. This was his greatest work, the *ne plus ultra* of his ambition, and upon it he was well content to place his claims upon posterity, convinced that in the end his hopes would be fully realized.

In 1794, Pinel occupied the Chair of Hygiene, and afterwards that of Internal Pathology, in the *École de Santé*. He was nominated a member of the Institute in 1803, in the Zoological Section; Chevalier of the Legion of Honor; consulting physician to the Emperor, in 1805; Chevalier de St. Michael; honorary member of the Academy of Medicine; and was one of the eleven professors who witnessed the dissolution of the *Faculté de Médecine* under the ordinance of 1822.

Pinel was three times a competitor for the chair of *Docteur-régent de la Faculté*, and was each time defeated. His personal appearance was much against him; he was below the medium height; his manner was diffident, his voice weak, and his enunciation slow and wearisome; and we scarcely wonder when there were so many things to contend with externally, that an indiscriminating board should have bestowed the appointment upon a candidate of a more prepossessing exterior.

Pinel's modesty was so excessive that when he was presented by his friend Desfontaines to the king's aunts, with a view to being their physician, he stood before them perfectly dumb, and impressed the princesses so unfavorably that they at once declined his services.

Pinel was a friend of the unfortunate Marquis de Condorcet, and during the revolution of 1793 secreted him in the house of Madame Vernet, a relative of the renowned painter, Horace Vernet. This noble woman's residence afforded him an asylum for eight months; but learning from the papers that death was denounced against all those who concealed a proscribed person, he resisted her entreaties to remain, and left Paris in disguise. A few weeks after, he was found lifeless on the floor of his apartments, having taken poison, which he always carried with him.

Without being a very zealous Catholic, Pinel had a deep veneration for religion, to the truth of which assertion every action of his life bore tacit witness. One day he met the celebrated astronomer Lalande, who said to him: "I am preparing a new edition of the Dictionary of Atheists, in which I have devoted an article to you;" "and I," replied Pinel, "am about to publish my Treatise on Madness, in which I will reserve a place for you."

Pinel led a sober, moral life, and was endowed with an excellent constitution; he was rarely subject to sickness, but in 1793, while visiting the wards of Bicêtre, where typhoid fever was then very prevalent, he was attacked by this disease, which proved almost fatal to his life, and greatly impaired his general health. He often dwelt gratefully upon the fact that he chiefly owed his restoration to old Arbois wine, with which he ever afterwards kept his cellar well stored.

Pinel passed the greater part of his time at his country-house, between Etampes and Arpayon. Surrounded by an affectionate family, he resided here for more than twenty years, in comfortable though not affluent circumstances. In 1823, he was removed from the School of Medicine, on suspicion of entertaining liberal principles, and was left with an income totally insufficient to defray the expenses of his household. Thanks to the love and able management of his wife, Pinel was never cognizant of the straightened position to which he had been reduced; his habits remained unchanged and his every want was still readily and cheerfully supplied, though, in order to do this, Madame Pinel was often compelled to deprive herself of the barest necessaries of life.

In 1820, Pinel was seized with apoplexy, followed by partial paralysis, which recurred at unequal intervals during a period of five years. A great many persons assert that, in consequence of these attacks, his latter years were passed in imbecility. This is simply an error; for, though owing to the paralytic character of his disease, he was often incapable of expressing his ideas with freedom and rapidity, his intellect remained unclouded until the day of his death. The unerring diagnoses which he frequently made during the last year of his life are a sufficient corroboration of this statement.

On the 21st of October, 1826, he was attacked with pneumonia, which terminated fatally in three days. His remains were followed to Pére la Chaise by an immense crowd, composed of his friends and old pupils, who seemed greatly overcome by his death. In the procession were noticed many old women from the Salpétrière, who came to take a last farewell of him who, for more than thirty years, had been their best friend and benefactor.

Great and irreparable, indeed, was the loss which France sustained in his death. Talented, charitable, and humane, he was eminently capacitated for the work which he undertook and so thoroughly executed. Pinel can never be forgotten. Even after the lapse of centuries, when the mutability which rests upon the face of all things shall arbitrarily ignore names worthy of remembrance, and envelop in oblivion actions which now shed their lustre upon the world, the beneficent deeds of this great French psycopathist shall still remain fresh in the hearts of afflicted humanity, and shall place him among

"The few and immortal names
That were not born to die."

ART. VIII.—*A Medico-Legal Treatise on Malpractice and Medical Evidence, comprising the Elements of Medical Jurisprudence.* By JOHN J. ELWELL, M.D., Member of the Cleveland Bar. 8vo., pp. 588. New York, 1860.

THE motto of this book, borrowed from an eminent criminal jurist, Mr. David Paul Brown, of the Philadelphia bar, should sink deeply into the heart and conscience of every physician and lawyer. "A doctor who knows nothing of law, and a lawyer who knows nothing of medicine, are deficient in the essential requisites of their respective professions." The importance of this twofold knowledge is everywhere insisted upon in the able work of Mr. Elwell, who, from his peculiar position as a physician, and a member of the bar, was admirably qualified for the task of supplying the two professions with a medico-legal treatise upon the subject before us. The following extract from his preface will serve to explain the motives which prompted him to undertake the work:—

"The active practice of medicine and surgery for several years having taught me something as to the magnitude of the duties and difficulties, the wants and liabilities, of the medical profession; and a corresponding length of time devoted to the study and practice of law having deeply impressed me with the importance of the two professions, relatively as well as independently considered, developing also the obvious fact that legal men and legal works devote too little attention to medico-legal subjects; I have thought that in no way could I better serve the interests of the two great professions to which I have devoted my life, and promote the great ends of science and justice, than by endeavoring to embody, in a concise, complete, and comprehensive work, all the settled principles and known authorities, as well as the result of my own thought and experience, upon the subject of malpractice and medical evidence."

The work of Dr. Elwell is, so far as our knowledge enables us to infer, the first that has ever appeared upon the medico-legal question of malpractice; and he is, therefore, peculiarly entitled to the thanks of both professions for having taken the lead in this interesting and important field of medical jurisprudence. Great Britain has certainly never furnished any work upon the subject, and the same remark is, we believe, strictly true in regard to the continental nations of Europe. One reason, perhaps, why America has preceded all other countries in relation to this matter, is the fact that suits for malpractice have been peculiarly frequent in the United States, particularly of late years. Commencing in Massachusetts forty years ago, with the celebrated case of Charles Lowell, of Lubec, concerning which Dr. John C. Warren published a small book, developing the facts and testimony elicited during the trial, these suits have gradually spread over the other New England States, and from thence over New York, Pennsylvania, and the greater portion of the West and South, raging, at times, like a kind of epidemic, every case decided in favor of the plaintiff serving as a fresh impulse to a new prosecution. Within the last few years the number of these suits has, if we mistake not, been very decidedly on the decrease, owing, mainly, to the circumstance that the prosecutor has generally been foiled in his attempt to extort money from his attendant for his alleged misconduct, or want of skill and attention. Were such suits confined to the miserable charlatans and pretenders of our profession, there would be just cause for their institution; but, unfortunately, it but too often happens that they involve men of the highest character for honesty and scientific attainment, men who would be an ornament to the profession in any part of the world. What is still worse, and a thousand times more humiliating, is that they are frequently, if indeed not generally, instigated by bad and designing practitioners, jealous of their neighbors and intent upon their ruin. We speak perfectly advisedly when we make this remark. We have never seen or heard of an instance of a suit for malpractice where this agency was not more or less prominent. On the other hand, we are equally certain that such prosecutions would rarely occur if lawyers always honestly discharged their duty to the medical profession; but, instead of this, they, like the jealous and unprincipled doctors, are too often ready and willing to foment the discontent of their clients and to divide the spoils, the result of an unrighteous suit, involving the defendant in great expense, in interminable trouble, and, not unfrequently also, in loss of character and of practice. We envy no lawyer his "contingent" fee in such a case, nor the comfort accruing to his tortured conscience when he comes to reflect, in his sober moments, upon his disgraceful conduct. It is high time that these unhallowed prosecutions, we should rather say persecutions, should cease; or, if they must be continued, that they should be conducted at least with a tolerable show of fairness and honesty, and not by men who are totally ignorant of the very rudiments of medical science, and who are, consequently, wholly incompetent to examine the medical witnesses that are always summoned upon such occasions.

The work of Dr. Elwell will do a great deal of good in pointing out the respective duties of the medical and legal professions in cases of suits for malpractice; and also in regard to the manner in which physicians and lawyers should deport themselves toward each other, when the former are subpœnaed as witnesses or experts in matters of ordinary medical jurisprudence. The chapters on medical evidence are very full upon this subject, and comprise, in fact, all that is really important to be known. We have nowhere, in the English language, seen the subject treated in so clear and satisfactory a manner within the same compass. The author's former experience as a practitioner of medicine and surgery, and his observation at the bar, have rendered him thoroughly conversant with the duties and requirements of medical witnesses, and the proper conduct of lawyers in trying their cases with a view to the attainment of the ends of justice.

We should be glad to follow the learned author in the discussion of the various topics of his novel and interesting treatise; but having lately noticed at much length the excellent work upon medico-legal medicine, by Briand and Chaudé, and, still more recently, the great work of the lamented Beck, edited by Dr. Gilman, of New York, we feel as if it would be needless to enter into details. The book is divided into two parts, the first being devoted to malpractice, and the second to medical evidence. Among the more important subjects discussed under the former head, are the general principles of law applicable to medical men; inherent difficulties of medicine and surgery; malpractice in amputations, fractures, dislocations, and ophthalmic medicine and surgery; the responsibilities of druggists; criminal practice; and abortion, or fœticide: under the latter division, Dr. Elwell speaks of the whole subject of medical evidence; of insanity in all its relations, including delusion and moral insanity; of mental incapacity invalidating a will; of poisons, especially arsenic and strychnine; infanticide; wounds; rape; coroner's office and inquests.

The above enumeration will afford a sufficient idea of the nature of the work under consideration. It should be added that it is furnished with a good index, and that it is illustrated with numerous adjudicated cases, both from American and English practice. It is well printed, and bound in law-book style, so that it exhibits the external characters rather of a legal than of a medical treatise; appearances also more in harmony with the author's present than past avocation.

In concluding this brief account of Mr. Elwell's book, we bespeak for it an extensive circulation and an attentive study, both on the part of the medical and legal professions, convinced that if they will only carry out its teachings, they will be wiser in knowledge, more courteous in manner, and more likely to subserve the great ends of justice during trials involving their mutual aid and co-operation. The work deserves a place in every medical and law library.

ART. IX.—*On the Organs of Vision: their Anatomy and Physiology.* By THOMAS NUNNELEY, F.R.C.S.E., Lecturer on Surgery in the Leeds School of Medicine, Senior Surgeon to the Leeds General Eye and Ear Infirmary, etc. etc. London: John Churchill, 1858. 8vo., pp. 373.

THIS excellent monograph emanates from the pen of a careful and laborious investigator, and though written, as we learn from the preface, during the constant interruption and distraction of active practice, it may justly be regarded as a valuable addition to the literature of the anatomy and physiology of the eye. It is professedly an attempt to supply both the student and the busy practitioner of medicine with a reliable manual of reference concerning the descriptive and minute anatomy of the eye, the more interesting and important phenomena of vision, the ideas obtained by sight and its relation to intellectual man, and the nature and elementary laws of light in their connection with vision. In making this attempt, Dr. Nunneley has not contented himself with merely a judicious selection of material from all the acknowledged authorities of the day; on the contrary, he has evidently been at much pains to verify the facts of others, as far as possible, by actual observation. In his elaborate account of the anatomy of the eye, for example, he appears to have described nothing that he had not previously dissected. He informs us that night by night continuously for more than two years he has steadily worked at the difficult microscopic structure of the many ocular tissues in various creatures, using some hundreds of eyes, and making some thousands of drawings of the parts. The product of labors like these, the work under consideration, comes to us with an authority which no mere compilation could possibly claim.

The pathology and embryological history of the eye not coming within the author's design, have been purposely omitted.

The volume is divided into seven chapters, and is handsomely illustrated with a series of eight plates, some of which are colored, and one hundred and seventy-nine wood engravings.

The first chapter treats of sensation and the senses generally. In the second are discussed the feelings and ideas ascribed to, and derived from, the sense of vision. The third chapter is devoted to the consideration of light, and such of its laws as are immediately applicable to vision. Chapters IV., V., and VI. are wholly occupied with anatomical details of considerable importance not only in a practical, but also in a scientific aspect. Chapter IV., "On the Structure of the Human Eye and its Appendages," is in every respect worthy of commendation. It is by far the longest article in the book, occupying, as it does, nearly one-half the entire volume. In this chapter the author has brought together, in a systematic and lucid manner, many well-known statements relative to the anatomy of the eye, and associated with them the results of his own skillful investigations. These independent researches have led him, in some instances, to controvert the statements put forth by other observers. Thus the globe of the eye is described by most anatomists as being a spheroid, the diameter of which from before backward is somewhat greater than in any other direction. By some, the antero-posterior diameter is given at 11 lines, the transverse at only 10. Petit described the proportion of the antero-posterior to the transverse diameter as 136 to 135; Soemmering, as 10 to 9·5. Dr. Nunneley, on the contrary, maintains that the transverse diameter is broader than the antero-posterior.

> "I am much inclined," he says, "to think whatever departure there is from a spherical figure is in the contrary direction to that which it has been so confidently and commonly stated to be, and that the opinion of the antero-posterior diameter being larger than the transverse has rather been formed from looking at a section where the projection of the smaller curve of the cornea, set in, as it is, to the somewhat flattened termination of the sclerotic, gives rise to the appearance of greater projection than to actual measurement of the two diameters. It would be difficult to give any optical reason why the antero-posterior diameter should be the largest, and analogy is decidedly against the supposition, for in all animals where there is any decided difference in the two diameters, the transverse is the greatest; in many instances the distance being very considerable."

This is the case in the eye of the ox, sheep, horse, pig, hare, squirrel, mysticete whale, turkey, Guinea fowl, grouse, partridge, common fowl, rook, swan, duck, goose, alligator, green turtle, toad, frog, basking shark, salmon, trout, greyling, dace, golden carp, eel, cod, haddock, whiting, mackerel, herring, halibut, etc. etc.

As our author's opinion on this subject is opposed to the statement so generally made, he has taken considerable pains in accurately measuring a large number of eyes of both men and women and of various animals; the latter almost immediately after death, most of them instantly the animal was killed. The tables of measurement which he gives in support of his views embrace as many as two hundred eyes. These tables are also of importance as showing the form and size of the cornea, and particularly in pointing out the situation in which the optic nerve enters the sclerotic, and its distance from the axis of the eye. It has long been known that this entrance is eccentric as regards the transverse axis; our author calls attention to the fact that it is also eccentric vertically, in almost as great a degree in man, and in many animals to a much greater extent,—the distance from the entrance of the optic nerve over the upper surface of the sclerotic to the top margin of the cornea being in man decidedly greater than it is along the under surface to the lower margin, while in some animals the contrary prevails.

This chapter also contains careful measurements of the lens, and other parts of the eye.

In chapters V. and VI. the anatomy of the eyes of recent and fossil animals is briefly described.

The physiology of vision constitutes the subject-matter of chapter VII. In this part of the work the reader will find, among other important topics, some highly interesting remarks upon parallactical aberration and the accommodation of the eye to distances.

In concluding this brief notice, we feel it incumbent upon us to commend the work of Dr. Nunneley to our professional brethren as a highly useful addition to their libraries.

ART. X.—*The Anatomy of the Human Lung; an Essay for which was awarded the Fothergillian Gold Medal of the Medical Society of London.* By A. T. HOUGHTON WATERS, M.R.C.P., Lecturer, on Anatomy, Physiology, and Pathology in the Liverpool Royal Infirmary School of Medicine, etc. Demi 8vo., pp. 223. London: Churchill, 1860.

THE author of this valuable monograph has succeeded in placing before the profession the most complete and faithful exposition of the anatomy of the component structures of the human lung with which we are acquainted. Based upon numerous investigations and dissections of dead subjects, we may rely upon his statements as being accurate; and that portion of the work relating to the bronchial blood-vessels will be found to be especially interesting, inasmuch as the author has demonstrated the non-existence of bronchial veins within the lungs, a view in which he is seconded by Reisseisen. The Medical Society of London has done well in awarding the Fothergillian prize to Dr. Waters, who, by this work, has proved himself an original investigator and a careful observer. We regret that we cannot present our readers with an analytical notice of the work, as our space will only allow us to give the conclusions of the author:—

"The lungs consist of two portions: first, that which constitutes the *convective channels*, by means of which the air is carried to and from the true respiratory system; second, the *true respiratory portion*—that in which the process of respiration is carried on.

"The first portion is formed of the *trachea*, the *bronchi*, and the *bronchial tubes.*

"The second portion is formed of the *terminal dilatations of the bronchial tubes, together with a number of tubes given off from them*, to which the name of *air-sacs* has been given, to each assemblage of which the term *lobulette* has been applied; the terminal dilatation of the bronchial tube is, in fact, but the commencement of the lobulette, or the *point de reunion* of the various air-sacs.

"The *connective channels* consist of cartilaginous rings, muscular and fibrous tissue, and a mucous membrane which is lined by a columnar ciliated epithelium.

"The *respiratory portion* presents on the parietes of the parts of which it is composed a number of depressions, to which the term *alveoli* has been given; these *alveoli* exist in the air-sacs, and in terminal dilatation of the bronchial tubes, and in some animals in the ultimate bronchial tubes previous to their dilatation.

"The *air-sacs* and the *alveolated portion of the bronchial tubes* are lined by a variety of the pavement epithelium.

"The *pulmonary artery* distributes its blood to the respiratory portion of the lungs.

"The *pulmonary veins* return the blood which has been distributed by the pulmonary artery.

"The ultimate branches of the pulmonary artery in the air-sacs form the nutritious vessels of the respiratory portion of the lungs.

"The *bronchial arteries* distribute their blood to the bronchi, the bronchial tubes, the vessels and areolar tissue of the lungs; the branches that enter the lungs pour their contents into the pulmonary veins.

"The *bronchial veins* return the blood which is distributed to the structures about the roots of the lungs.

"The *lymphatic vessels* of the lungs form two sets, a superficial and deep. The former are found at the surface of the lungs; the latter chiefly accompany the bronchial tubes.

"The *nerves* of the lungs are derived from the pneumogastric and sympathetic; branches are distributed chiefly to the bronchial tubes, but some pass to the blood-vessels and to the surface of the lungs; some apparently are lost in the pulmonary tissue.

"The air-sacs exist fully developed in the fœtal lung before birth."

ART. XI.—*Report of Professor Valentine Mott's Surgical Clinics in the University of New York; Session* 1859–60. By SAMUEL W. FRANCIS, Member of Dr. Mott's Surgical Staff. 12mo., pp. 209. New York: S. S. Wood, 1860.

THE little volume before us will be sought after with avidity by the many friends and pupils of the illustrious surgical chieftain of New York, whose zeal in his profession, although he has passed the age of threescore years and ten, is as keen and vigorous as it was at the commencement of his brilliant career. As the title denotes, it consists of a report of the principal cases treated by Professor Mott at the surgical Clinic of the University of New York during the session of 1859–60, and is well worthy of an attentive perusal, inasmuch as it embodies the practical views of a man who has long enjoyed a world-wide reputation as one of the greatest surgeons of the age. The young editor has performed his task with commendable zeal and ability, thus affording an earnest of future usefulness and fame, destined, we trust, to rival those of his illustrious father, who, to indomitable industry and perseverance, and an ardent love for his profession, adds the character of the medical philosopher and the varied accomplishments of the scholar.

We subjoin the following extract, the only one which our limited space will admit of, as a specimen of the style, and the nature of the matter in this Report. The case to which it refers is a type of what so often happens in the hands of inexperienced and careless practitioners:—

"A young boy, aged four years, was then brought into the Clinic and shown to the students, who had been operated upon for stone in the bladder, some three weeks before, by Dr. Alexander B. Mott. The child had suffered much from pain in the hypogastric region, had experienced great difficulty at times in passing his urine, and occasionally, while micturating, it would stop on a sudden, as if some impediment of a mechanical nature had arrested the flow; having, as it were, fallen in front of the urethra. At times, moreover, there had been a kind of sediment deposited in the water which he had passed; and it was a constant source of anxiety to his parents that his urine should have so much thick and viscid material in it. This was no doubt the result of inflammation, occasioned by the irritation of the internal coat of the bladder, brought about by the attrition of a foreign body, which resulted in an increase of mucous secretion. This deposit in the urine, after excessive drinking of stimulating liquors, has not unfrequently caused the student to suspect the presence of albumen. But the nitric acid test, or the application of heat to a small portion in a test tube, or an additional trial of a solution of the bichloride of mercury, would at once reveal the truth of the case, and calm all apprehension on the part of the medical man.

"Several practitioners had made careful examinations with the sound, but could ascertain nothing satisfactory or conclusive in the case before them. There was much that was rendered obscure in the present instance. The rational signs were indicative of the presence of stone. While that which was all-important to confirm the opinion of a few, namely, the sound, failed in elucidating the matter or unraveling the mystery. The case was abandoned, and Dr. A. B. Mott was called in to treat the patient for the symptoms as exhibited in the continued sufferings of the young boy. He sounded very carefully, and succeeded in turning the instrument behind the prostatic portion of the urethra. Moreover, by passing the sound far up into the bladder,—bearing in mind that in a child there is no 'bas fond,' while in a person advanced in years it increases, and, in fact, in the old man there is quite a large sac below the sphincter of the neck of the bladder; again, in one of few years the bladder is more perpendicular and farther to reach,—the doctor ascertained, by following out these principles, the presence of a very small calculus, which he could distinctly hear click when the steel came in contact with its hard exterior."

ART. XII.—*De la Circulation du Sang dans les Membres et dans la Tête chez l'Homme.* Par J. P. SUCQUET, Docteur en Médecine de la Faculté de Paris; Lauréat de l'Académie des Sciences; Chevalier de la Légion d'Honneur. 8vo., pp. 55. Paris: J. B. Baillière et Fils, 1860.

THE experiments and observations embodied in this little pamphlet are of a highly interesting character, and if verified by subsequent investigation, will, to a certain extent, modify our views both of the physiology and pathology of the circulation. By throwing solidifiable injections into the arteries, and subsequently dissecting and carefully tracing out the vessels under a lens, M. Sucquet claims to have discovered, in the upper and lower extremities, and the head, a peculiar, derivative, or diverticular circulation. He maintains that in each of these parts there is, independent of the capillary system, a direct passage between certain arteries and veins. He injected the axillary artery and found that the veins of the fingers and hand were the first to swell with the injected liquid, then the subcutaneous trunks of the forearm, and finally those of the arm. The trunks of the cephalic and basilic veins received the injection freely from the veins of the hand and fingers. Those branches of these two veins, however, which originate in the skin of the forearm, and the muscular and other deep-seated veins, were empty and collapsed. It is generally supposed that in the arm the blood passes from the arteries into the veins everywhere in the same manner. This our author denies. He contends that there are two distinct circulations in the upper extremity. One of these is general, permanent, regular, and nutritive; the other is inconstant and irregular, and has nothing to do with nutrition. It is localized in certain vessels of the elbow, and, above all, in the arteries and veins of the hand, and acts as a diverticulm for the superabundant blood of the arterial system of the arm, counteracting the frequent and marked irregularities of the latter, and preserving the constancy and the equality of the interstitial circulation.

M. Sucquet has also studied the circulation in the lower extremities. He found that liquids thrown into the crural artery always returned by the crural and great saphena veins; more quickly and more abundantly by the former, however, than by the latter. His observations led him to conclude that the lower extremity, like the upper, possesses not only a general circulation which flows through capillary vessels and is constant, equable, and nutritive, but another or supplementary circulation which is irregular and derivative, is confined to certain vessels of the knee, and especially to particular arteries of the foot, anastomosing with the saphena and even with the deep-seated veins at the end of the limb.

Injections cast into the primitive carotid artery always return, according to our author, by the jugular veins of the neck, without having visibly distended the vessels of the head. The derivative circulation of this part of the body is seated in the face, being carried on by the facial, ophthalmic, and auricular vessels. The surplus blood of the arterial system is transferred to the venous chiefly by the facial vein.

The derivative circulation, wherever it occurs, is particularly under the influence of the heart. Whatever increases the strength and rapidity of the latter, augments also the activity of the former. The ingestion of food, alcoholic drinks, joy, anger, violent exercise, heat, and certain febrile movements accelerate this circulation by hurrying the action of the heart. On the other hand, hunger, fright, the depressing passions, and cold lessen this circulation by weakening the heart.

We regret that our limits forbid a more extended notice of the novel and important views of M. Sucquet. Those who are interested in these anatomico-physiological inquiries will be amply repaid by an attentive perusal of his very suggestive pamphlet.

ART. XIII.—*The Institutes of Medicine.* By MARTYN PAINE, A.M., M.D., LL.D., Professor of the Institutes of Medicine and Materia Medica in the University of the City of New York, etc. etc. Fifth edition; 8vo., pp. 1109. New York: Harper & Brothers, 1859.

THAT five editions of this philosophical and deservedly popular work should have been required within the space of fifteen years is sufficient evidence of the high estimate in which it is held by the profession. In the September issue, 1858, of the REVIEW, we presented our readers with an elaborate notice of Dr. Paine's work, and the present edition does not materially differ from the former. The appendix has undergone some modifications, and a supplement has been added, which contains observations on the correlation of forces, the glycogenic function of the liver, the cause of the blood's fluidity, the *modus operandi* of medicines, absorption by the skin, transfusion of remedies, intestinal absorption and lacteal circulation, and the forces which circulate the blood. Although the author's views are peculiar in many respects, and not sustained by the majority of physiologists of the present day, yet no one can fail to wonder at the great storehouse of erudition displayed in this volume, which should be in the hands of every accomplished physician throughout the land.

Original Communications.

ART. I.—*Dysentery; its Pathology, Causes, and Treatment, with Cases.*

By H. P. AYRES, M.D., of Fort Wayne, Indiana.

IT appears almost presumptuous to publish any article on the subject of dysentery, after it has elicited and received so much consideration from such men as Cheyne, Twining, Cornel, McIntosh, Stokes, Watson, and many other minds in this and other countries.

Studious investigation and patient research have characterized the interest of the profession in this prolific subject. Years of patient labor have been insufficient to satisfy the inquiries respecting its pathology and treatment. Ever varying in its phases, it has exhausted the resources of the materia medica to meet its mutations, and sometimes bewilders the profession to make applications to relieve the sufferings of the afflicted. At one time it is mild, gentle, and perfectly manageable; at another time, it sweeps a neighborhood or town with a blighting desolation, leaving in its march mourning households. Age, sex, time, and place are oftentimes put at defiance. The weak, the strong, the well fed and the poorly fed, fall victims to its attacks. The torrid, temperate, and frigid zones are visited by its ravages; and of dysentery it may be said, where man is found, there will some of its forms appear. The special pathology of dysentery, with its anatomical lesions, have long been settled; the colon and rectum being, without doubt, the points where the greatest derangement of the economy occurs, yet it may extend by sympathy or positive inflammation from the mouth to the anus, involving all the glandular and peritoneal textures of the abdomen, But where and from what causes the disease originates, by what process it is generated, how the poison is introduced into the system, the changes it produces in the organs of respiration and nutrition, how it develops itself in the colon and rectum, and why it assumes its various phases in different years, are questions yet open to investigation.

Why, during one year, is it mild, making its attacks upon all in the same manner, however differently situated in respect to houses, clothing, and diet—running just such a course, and yielding to a similarity of treatment? Why, during another year, does it assume a chronic, typhoid, or inflammatory type, having characteristics which mark it in every patient, not alone in the simple phenomena of the disease, but in its effects upon the eye, the lips, the tongue, the nose, the voice, and the skin? So marked are these phenomena that the physician recognizes the nature of the disease in a new patient from the physiognomy alone. We naturally trace results back to ascertain their first causes, but in no instance where the organism is perfect will disease be found; and in no case will disease or death invade the economy until the full period of life is run, unless secret results be superinduced by external matter, in the shape of aërial or ingestive poisons—the latter being so either from their own chemical qualities or becoming so from a morbid digestion.

Perceptible and present causes are sought to account for all diseases; and generally we seek for them in our food or drink, in heat, cold, seclusion, or exposure. But if heat, cold, food, or exposure are productive of the phenomena in diseases, why do they not produce such results whenever they are brought to act upon the body? Why have we dysentery of one type in the spring or summer, and a fac-simile in the autumnal months, or like phases of this disease in the extremes of temperature; or why do not similar productive causes, such as diet, clothing, drink, and locality, uniformly produce similar results?

If we attribute sporadic, endemic, or epidemic dysentery to either food, miasm, or locality, why do they not have, upon the various constitutions attacked, an effect corresponding to the strength and vigor of such constitutions? And yet such is not the case; we have seen the strong fall before the march of dysentery as rapidly as the weak, and the weak recuperating as rapidly from its attacks as the strongest: such facts have come to the observation of every practitioner. Now, if such results are true, we can come to no other conclusion than that there must be some agent or agents acting, whose phenomena and results are similar whereever they are exercised. We say there is a *vis medicatrix naturæ;* but this power does not exist perceptibly when tested by arsenic and strychnine, and we think the same principle true in dysentery; when the poison producing it finds its way into the system, the results are as surely developed as are the effects of mineral or vegetable poisons, but of course in the same ratio as to the amount taken.

Strychnine or arsenic will produce their results in the torrid, frigid, or temperate zones; ergot will effect the strong and the weak in a similar manner; veratrum viride will produce like results on a thousand different patients, however circumstanced in relation to locality, food, water, or other causes. So is it in dysentery; there must be an agent generated or introduced into the system, possibly arising from a multiplicity of external causes, yet, whenever and wherever it is generated, a part or all of the phenomena of dysentery will appear.

Every physician knows that affections of the liver, spleen, stomach, gall-bladder, and other organs of the body, produce a series of phenomena peculiar to themselves, which are always present in the same ratio as the disease is mild or intense; and such results may as surely be looked for as may the effects of arsenic or any other poison.

If such results come under our observation in reference to diseases of the liver, stomach, or gall-bladder, why may not the series of phenomena in dysentery be traced to a previous affection of some of the functions of the economy?

The characteristics of dysentery are the same in all countries and in all latitudes, and there must be similar causes producing such a uniformity in results. Dysentery is but the manifestation of another disease, but in point of treatment it is a distinct local inflammation. The primitive diseased part is the blood, which may have been changed from its normal condition by animal, mineral, aërial, or vegetable poisons, received through the skin, lungs, or stomach; but whenever and however it originates, it, by the law of election belonging to some diseases and medicines, invariably manifests itself in the colon and rectum. Or the disease may be perpetuated by the poisonous secretion or excretion of the various organs along the alimentary canal, which have been impregnated with the poison as the blood circulated through their textures, thus frequently disappointing the expectations of the physician by a recurrence of the symptoms of dysentery after he thought a cure had been effected.

The elective power of medicines and diseases cannot be denied. Ergot, strychnine, and veratrum viride will affect the womb, nerves, and heart; the venereal virus will affect the throat; certain conditions of the stomach will affect the conjunctiva, motor nerves, or skin; certain forms of porrigo will only affect the scalp. So is it in dysentery—this peculiar state of the blood chooses only to affect the colon and rectum.

Neither the existence of indigestible food nor the indigestion of digestible aliment in the alimentary canal are in themselves necessarily productive of dysentery. Every practitioner of experience has observed children, during the prevalence of dysentery, using unripe fruit, and other substances equally pernicious, with the utmost impunity, and yet entirely escape the disease. We also, in lienteric states of the bowels, observe food passing, with no other change than a simple rounding of the corners, which is more the result of friction than digestion, yet without any appearance of the form of dysentery, of which we are now treating.

The same principle holds true during the prevalence of Asiatic cholera. Many persons, with the utmost impunity, use articles of diet proscribed by universal consent, and yet escape this dreaded scourge; while others, after the most rigid care, are its first victims. Such results cannot be attributed alone to an affection of the mind acting upon the functions of the economy, for the disease may be observed in children, where a fear of it does not exist.

We frequently find parents consulting the profession respecting the best means of preventing dysentery during its prevalence; and yet these very families are perhaps the greatest sufferers, while those who are perfectly indifferent entirely escape. We do not assume the position that care is no safeguard to health, but we do say, that in some diseases where the producing poison enters the body, the results are positive and certain, regardless of the most watchful care.

We have long been of the opinion, that if a series of observations, by which the proportionate amount of gases composing the atmosphere, during the prevalence of any epidemic, could be registered, with an analysis of the discharges from the bowels, we would find an exact ratio existing between them and the mildness or severity of the disease. We do not embrace the theory of Kircher, Holland, or Henle, respecting animalculæ being the origin and cause of disease. We think there are certain legitimate laws regulating the organism in health; and when there is an infringement upon these laws by extraneous matter, derangement in some or all of the functions of the body is an inevitable result.

All persons know that an excess of oxygen immediately affects the character of the red globules of the blood; while an insufficient amount equally affects them, but in a more deleterious manner. The blood may be diseased by an introduction of foreign substances through the skin, lungs, or stomach, or from a want of a proper elimination of substances generated in it. "Carbonic acid, urea and lithic acids, cholesterin and other elements of bile, and other matters which it is the office of the excreting organs to remove, may accumulate in the blood, and may become fertile sources of disease by their injurious presence."*

We also know that peculiar states of the atmosphere will affect the fibrin of the blood, thereby producing an inflammatory state of the system; while the poisonous atmosphere surrounding a typhous patient has a contrary effect. Pathology abounds with facts which will sustain the position, that in all cases of dysentery there is a primitive diseased state of the blood, which, whenever circumstances develop the poison, either through the lungs, skin, or food, the manifestation of such poison in the blood is shown upon the colon or rectum, or both, making dysentery but a sequence of another disease.

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* Carpenter's Physiology, p. 534.

The treatment of dysentery has been no less surrounded with difficulties than has its general pathology. Were I to select any disease, by which to prove that nature exerted a greater influence in the cure of disease than art, I would select the one under consideration; for, in its treatment, there have been the most antagonistical views respecting almost every article in the materia medica in reference to its curative powers. The remedy which, in the hands of one man, has acted as a specific, has been utterly and hopelessly abandoned by another. Remedies which have proved highly successful in one year, have proved inefficient during the succeeding season.

The data, from observation, respecting the causes and treatment of dysentery, differ so widely in conclusions, that the present treatment is largely of an experimental character. After making full allowance for climate, constitutional differences, and complications with other diseases, there is an identity in dysentery, wherever found, which we think should lead to a more successful and uniform method of treatment; but, until investigation reveals to us a fuller understanding of its pathology, we must content ourselves with our present remedies and appliances.

Among the remedies which have been most extensively used, mercury stands prominent. Physicians have used it in the East, the West, the North, and South, and the experience with it has been almost as diverse as the poles themselves.

Dr. Coley used calomel and opium in inflammatory dysentery, with success. Dr. Lewins and Dr. Hayns, of Java, gave scruple doses, and repeated the medicine, until the cure was effected. Dr. Hare, of India, had an unbounded confidence in the sulphate of quinine and injections, but remarks: "If that treatment will not answer, the profession must go back to a mercurial treatment, involving salivation; for there had been a decided increase in the mortality of dysentery since its abandonment." Dr. Papillaud, of Brazil, rejects calomel and uses sodæ sulph., calling it the *par excellence* among all remedies, and at the same time rejects all vegetable and mineral astringents. Dr. Baily relies on calomel, bleeding, and opium; his favorite prescription was: Calomel grs. ij, opii. pulv. gr. $\frac{1}{3}$, every three hours, until the gums were tender. Dr. Annesley recommends calomel in scruple doses, but warns the profession against producing the constitutional effects of the medicine. Dr. Cheyne, of Dublin, uses venesection, with calomel and opium, successfully, but doubts the propriety of salivation. Dr. Brown, of Glasgow, found venesection, calomel, and opium unsuccessful. Dr. Johnston, in his wide field of observation, relied upon calomel alone. Dr. McFarlane recommended from fifteen to twenty grains of calomel, with one of opium, as the first dose, and then two grains every six hours, until salivation was produced. Dr. Abercrombie, a man of wide experience, has but little confidence in calomel; but "in some cases" recommends one grain of calomel, with pulv. Doveri, every four or five hours. Dr. Turnbull, of Liverpool, recommends a pill composed of four grains of calomel and one of opium, as the first dose, to be followed by smaller ones until the gums are sore. Dr. Twining, whose experience is unsurpassed, says he has seen salivation without curing dysentery; and, while he does not reject calomel, highly recommends an ipecacuanha treatment. Dr. Bell gives calomel in doses of fifteen or twenty grains at once, or five grains of pure calomel every three hours, until the bowels are emptied, but remarks: "If this course does not soon effect a cure, it should be abandoned." Dr. Christison relies on opium and sulphate of quinine. Dr. J. T. Garrison, in his report to the American Medical Association, says he found calomel applicable in almost every case; and with it, ipecac., sulphate of quinine, and opium was very successful. Dr. Wyman, of Cambridge, Mass., manifests but little confidence in calomel, but relies upon purges, followed by opium. Dr. Condie uses calomel in one-grain doses every two or three hours. Dr. Dunglison does not advocate the use of this remedy warmly, and rejects the idea that salivation is a specific; he recommends its careful use. Dr. Eberly warmly advocates its use, even to ptyalism. Dr. Stokes remarks: "Thus, when you have given calomel for twenty-four or forty-eight hours, and find no signs of salivation appearing, you should be cautious how you proceed." Dr. Good advocates the use of mercury in dysentery. The English army surgeons found calomel good in dysentery in India, while, during the same year, the French army in Egypt found it decidedly pernicious.

The lists might be greatly lengthened, to show the diverse opinions which exist among the best men in the profession respecting the use of a single drug in dysentery. We need not think it strange, when the leading minds in the practice of medicine differ so widely in their views, that the profession is yet without any fixed principle in the treatment of this disease.

We are aware the disease in the torrid and temperate zones is largely influenced by the different circumstances under which it exists; and did we find the discrepancy existing alone in different latitudes, the case would naturally be changed. But authors and practitioners in the same latitudes, or even in the same city, widely differ not only in remedies, but in the divisions or phases of the disease itself; some having one form, others having two, three, and four divisions, leaving the matter as unsettled as are the remedial measures.

But the discrepancy in reference to calomel in the treatment of dysentery is only one among fifty other drugs, which are claimed by some as efficient or specific remedies. Venesection, ipecac., sulphate of magnesia, sulphate of quinine, acetate of lead, acetate of morphia, opium, blue mass, Dover's powder, muriatic and nitric acids, catechu, kino, copaiba, tannic acid, cold water injections, white oak, prepared chalk, cascarilla, cinchona, and a host of counter-irritants, all of which it is proper for the physician to use, if he can but establish the point that he is treating dysentery. But while we would complain of the indefiniteness in the division and treatment of this malady, we would avoid the labyrinthic divisions which characterize our cutaneous nomenclature. Simplicity in the classification and treatment of disease is as absolutely necessary to success, as it is in the construction of machinery to its success and durability. The complicated and useless combinations which characterize old formulas have rapidly given way to a more reasonable, simple, and efficient practice; and the reformation thus begun will continue, until the practice of medicine will be stripped of much of its present mysticism.

Dysentery always appears in one of two forms: inflammatory or acute, and subacute. Hence we think the divisions of acute and subacute quite sufficient, and better calculated as a basis upon which to found a treatment than the variety of names and subdivisions mentioned by different writers. The acute form may become subacute; and conversely, the subacute may become acute; but the chronic and typhoid states, which we frequently see, may result in either form of attack, but should only be looked upon as results.

In the acute form, we may have a febrile state of the whole body from the first onset of the disease; or we may have a cool skin, with a rapid pulse, and great thirst; or we may have a burning skin, and no very marked acceleration of the pulse. We may have tenderness of the bowels, with intense pain in the head, or we may have one of these phenomena without the other; but always in this form, restlessness, and loss of appetite. In the subacute variety, we may have all the phenomena of dysentery upon the colon and rectum, with very little pain either in the abdomen or head; the patient sometimes appearing entirely free from any unpleasant sensations unless from tenesmus. The appetite may remain unimpaired, and no increase of thirst be present. Yet from both these states have we, as before intimated, seen the chronic and typhoid types arise. The same reasoning is true in reference to other complications. A morbid state of the stomach, engorged liver or spleen, may be complicated with the disease, but only exist as complications, and should not give rise to such divisions as intermitting and tertian dysenteries. If this disease were always treated *pro re nata,* and without reference to specifics, much of the discrepancy in treatment would cease, and there would be a more uniform practice established. Acute dysentery should be treated as an inflammatory affection, without reference to any previous experience, as this inflamed state may, with every year and case, have new phases and types. In the subacute form, some astringent, a dose of calomel, of salts or oil, may be sufficient to check the dysentery; while the very same remedies, in the acute form, might only increase the inflamed, congested, and irritated state of the lower bowel. I am satisfied these two states may exist in epidemic, endemic, and sporadic dysentery, yet in all cases involving the same principle in the treatment.

During the year 1845, dysentery prevailed in Northern Indiana as an epidemic, and assumed a decidedly inflammatory character. The stomach, the whole alimentary canal, and more especially the liver, were involved in the trouble. There was great tenderness of the bowels, and in many cases severe tympanites, with an excruciating pain in the anterior portion of the brain. For one or two days there was a slight disturbance of the bowels, exciting but little attention. At the close of the second day there would be a free serous discharge, succeeded in a few hours by a sanguineo-mucous, and then by a sanguineo-purulent one, great nervous sensibility, restlessness, rapid emaciation, cadaverous features, sunken eyes, and sometimes aberration of intellect. The pulse was full and hard at the commencement of the disease, with an increase of about thirty beats over its natural number. The tongue was dry, the thirst insatiable, and fluids, when taken, were frequently rejected from the stomach as soon as swallowed. The whole organism appeared to be involved in a general inflammatory action, which, when unrestrained, soon brought on disorganization and dissolution. I have noted several cases as they occurred in my own and other physicians' practice, as illustrative of the facts in question.

CASE FIRST.—Miss E. S., aged twenty-three, was robust and fleshy, with ruddy cheeks, dark hair, and of a hopeful, cheerful disposition. The bowels were for two days affected with slight diarrhœa, causing no apprehension of any serious difficulty.

On the beginning of the third day the discharges rapidly assumed a muco-sanguinolent character, often passing clear blood, with severe and increasing tenesmus. The bowels became painful and tympanitic; the urine was voided frequently, but in small quantities. But the greatest pain was in the cerebrum, running from temple to temple, and spasmodic in character.

During the paroxysm the pain was most excruciating, causing the patient to cry out, notwithstanding her great fortitude. I took a sufficient quantity of blood from the arm to soften the pulse, which for the time being relieved the pain. The abdomen was rubbed with the following:—

℞.—Ol. olivæ,
Aquæ ammoniæ, āā ℥iss;
Ol. conii,
Ol. terebinth,
Tinc. camphoræ, āā ℥ss.

After the abdomen and back were freely rubbed with the liniment, several folds of light flannel were wrung out of warm hop decoction and applied to the bowels, and kept warm with a hot dinner-plate laid upon the flannel, and changed for another as it became cool. The closet-stool before being used had a handful of hops thrown into it, with two or three pints of hot water, the effect of which was very grateful to the patient, and salutary to the diseased parts. Dover's powder and ipecac. were administered every three hours, in sufficient doses to produce a slight nausea, and to some extent mitigate the pain, yet it did not entirely control the action of the bowels. To allay the thirst the patient was permitted to drink freely of mucilaginous water, and to take the following, to alternate with the Dover's powder and ipecac.:—

℞.—Spt. Mindereri, ℥ij;
Syr. ipecac. ℥i;
Tinc. veratri vir. ʒss.
M.—A dessert spoonful every three hours.

Sometimes I gave the latter every hour, without any other medicine, and succeeded in subduing the inflammation. But, notwithstanding this treatment, the violent pain in the head returned, and I could only give relief by again resorting to venesection. After this the trouble in the head did not return. When the severity of the inflammation was subdued, the following was ordered:—

℞.—Hydrarg. cum. cretâ, ℈iij;
Plumbi acet. ℈j;
M.—Ft. pulv. No. V.

One to be taken every three hours, until bilious discharges were produced. As is frequently the case in the treatment of dysentery, a diarrhœa succeeded, which was relieved by the following:—

℞.—Tinc. opii,
Tinc. kino,
Bals. copaibæ, āā ʒiij.

M.—Give six or ten drops to a child two years old; a teaspoonful to the patient every two hours until better.

The patient recovered under the use of an excellent article of port wine, tonics, and a generous diet, but with the entire loss of her hair, the latter fact characterizing many of the severe cases of this year.

CASE SECOND.—Miss H., aged nineteen. Nervo-bilious temperament; the latter largely predominating. Stature short, stout; black hair; ruddy skin; sprightly and cheerful in manner. The dysentery was ushered in with the same phenomena that characterized the preceding case, excepting the severe cerebral pain. The pain in the abdomen was severe, with great tenesmus, and high febrile action. The case was treated with calomel and opium; first a large dose, followed by successive smaller ones, combined with astringents, to check the action of the bowels. The result was, that the tenderness and tympanites were increased; all the symptoms were aggravated, and the patient died. The result of the two methods of treatment was, that the cases in which the treatment was first of an antiphlogistic character, without any special reference to the local disease, with but few exceptions recovered; while those who were subjected to the calomel and opium treatment died. The error in the above case was the want of an active antiphlogistic treatment, under which the patient might probably have recovered. Sulphate of magnesia was used in several cases, which terminated favorably, owing undoubtedly to its anti-febrile qualities.

CASE THIRD.—A child two years old. Commenced with a slight diarrhœa. Second day, sanguineo-mucous stools appeared. Evacuations and tenesmus were characteristic of severe dysentery. Calomel and Dover's powder were administered to procure bilious discharges; castor-oil was given to assist the operation. Injections of starch and laudanum were used to relieve the tormina, but were immediately and forcibly rejected. The calomel not procuring healthy operations, it was repeated, which only aggravated the morbid symptoms, and the patient finally died. In the rectum the rugæ appeared like rings, one above the other, red, and deeply congested; the abdomen and bowels were largely distended with gas.

We look upon the last case as a parallel one with the second, both illustrating the necessity of ascertaining at what point and in what manner the economy needs to be assisted. We think in this case the calomel should have been preceded by an antiphlogistic course.

CASE FOURTH.—John E., aged fifteen. A fine, healthy boy, living in easy circumstances, studious and precocious. The *Water Cure Journal* had been sent to the family, and then taken regularly. It contained an article on curing dysentery by cold water injections, in imitation of Dr. Twining.

His attack was a severe one. The cold water injections were assiduously given according to directions, which had the effect to check the bloody discharges from the bowels. The fourth day he became very weak and restless. Becoming alarmed on the sixth day, I was called in, and found the bowels were not troubling him severely, but there was a constant regurgitation of bile from the stomach into the mouth, requiring an effort, every few minutes, on the part of the patient, to free his mouth and throat to prevent suffocation. The skin was sallow or leaden, the eyes sunken, the nose pinched, and the countenance anxious. I gave him a full dose of hyd. cum cretâ, followed every half hour with a tablespoonful of water containing sup. carb. of soda. In two or three hours the regurgitation entirely ceased; the bowels passed healthy bilious matter, but the patient continued to grow weaker, notwithstanding every effort was made with tonics and stimulants to sustain the powers of life.

The water accomplished the reduction of the inflammation, which was very well; but it was used to such an excess that the lower bowel was paralyzed and its action suspended. The functions of the liver and other organs were entirely neglected, so that the system necessarily sank under such indiscretion. Had the lad used the water, and at the same time attended to the functions of the liver and bowels, he would in all probability have recovered. In all cases during this year, as the treatment approached an antiphlogistic one, success was the result; and as this principle was lost sight of, disappointment followed.

One of the strong characteristics of this epidemic was that the largest number of cases was among adults, and those generally females. When it attacked children it was more manageable, and the recovery was more rapid.

In 1854 we were again visited by dysentery, but it was entirely different from that of 1845, the grade of inflammation being subacute, and generally attacking children. Physicians resorted to the usual remedies, but did not meet with the success wished for; many of the remedies rather increased than removed the disease.

A similar epidemic broke out in a neighborhood eight or ten miles from town, but, owing to the distance, the citizens resorted to a home remedy, which was a decoction of white-oak bark. With this remedy they were entirely successful in their worst cases. Of course physicians profited by the suggestion. The treatment they adopted, was to evacuate the bowels with a mild cathartic, and then use astringents, which uniformly resulted in convalescence. But this treatment in the epidemic of 1845 would have been fatal, as it proved to be in some instances.

In 1856 we were again visited with the same disease. In this year there was another form of treatment required. The decided antiphlogistic course of 1845 was not only unnecessary, but unsuccessful; yet not less so than the astringent course pursued in 1854. Cathartics were absolutely necessary, and the patient rapidly convalesced under their judicious administration. The largest number attacked was among children, yet many adults suffered. Any derangement of the bowels, teething, and all indisposition appeared to terminate in dysentery. In this year, the calomel treatment was decidedly successful; and the majority of cases yielded to one or two doses, after which the patient would rapidly recover. A number of cases occurred, however, in which the patient neglected the matter, or resorted to some nostrum; in such cases the disease would speedily assume new phases, generally of an inflammatory type, which would require another treatment; and frequently such cases would assume a typhoid state, from which recovery was very slow.

Thus, in 1845 we treated dysentery strictly as an inflammatory disease, using venesection and other antiphlogistic remedies; in 1854, as a subacute, in which an evacuation of the alimentary canal and astringents constituted the successful treatment; in 1856, as a subacute kept up by a morbid state of the liver, spleen, and other organs, in which cathartics were absolutely necessary. In each of these years there were instances of chronic, typhoid, and ulcerative states of dysentery, which may form the subject of another paper. Here, we think, is the reason of the great discrepancy in the treatment of dysentery: the peculiar character or type has not been sufficiently illustrated in which calomel, venesection, ipecac., opium, and the various remedies which have been and are reputed as specifics, have been successful; and yet in the hands of others have entirely failed. It is true, Cullen, Sauvages, and Linnæus have not placed it among inflammatory diseases; but, with all deference to those who differ, dysentery should have the same place in our nomenclature as pleuritis, gastritis, or metritis. In each of these the proper treatment has long been settled by the profession, but with no better reasons than would apply to dysentery.

It is not necessary in all cases of pleuritis or metritis to bleed or give tartar emetic or calomel; we use such remedies according to the exigencies of the case, but we always keep in mind the inflammatory character of such diseases.

Just so do we think respecting dysentery. Place it among our inflammatory diseases, and the treatment will become as uniform as in pneumonia or pleuritis, which may or may not be complicated, like dysentery, with other diseases. I am aware many treat it as an inflammatory disease, and would repudiate any other treatment; but nevertheless the prevailing feeling with the profession is to have a specific in dysentery, when it can alone be successfully treated on general principles.

ART. II.—*Tracheotomy in Croup.* Illustrated by Four Cases. By C. S. FENNER, M.D., of Memphis, Tennessee.

ON the 9th of November, 1857, I received a message from my friend, Dr. J. R. Frayser, requesting my presence at the residence of Mr. Borner, with a view to perform tracheotomy. Accompanied by Dr. W. D. Tucker, I immediately obeyed the summons, and found the patient, a little boy five years and three months old, who had been suffering for ten days with pseudo-membranous croup, in a dying condition. His lips were purple, pulse rapid and scarcely perceptible, and his respiration nearly suspended. I immediately cut through the integuments below the thyroid body, opened the trachea, and inserted a tube. The patient was entirely unconscious, evincing no signs of pain from the cutting. By the time the operation was completed, respiration having ceased, we resorted to artificial breathing, inflating the lungs through the tube for some ten or fifteen minutes, when he began to breathe through the instrument without assistance, and consciousness soon returned. The tube had to be taken out frequently and cleansed, as the orifice became plugged with mucus and detached pieces of membrane impeding or instantly checking respiration. At the end of thirty minutes he was so much revived that he called for water, and on being raised up drank freely. A few drops of a solution of nitrate of silver were occasionally poured through the opening into the trachea, which excited forcible expiration or coughing, causing the discharge of a quantity of tenacious mucus and flakes of false membrane through the tube, or, when that was removed, through the wound; after which he would breathe more easily and fall asleep. A small sponge probang was also repeatedly dipped in the nitrate of silver solution, and carried through the wound down to the bronchial tubes, and upward through the larynx On removing the probang, the tracheal secretion, coagulated by contact with the solution, would adhere to the sponge and be removed, with great relief to the little sufferer. There was also a free secretion of reddish colored serum, which, passing down into the lungs, obstructed respiration. I had him placed on his side, and the foot of the bed slightly elevated, so that the secretion would gravitate to the tracheal opening, and be discharged without any effort on his part. He passed a comfortable night, awakening only when the tube became obstructed, and dropping to sleep as soon as the obstruction was removed. On the eighth day the canula was removed and breathing went on through the wound until the tenth, when the opening closed and respiration was naturally and easily carried on through the larynx. He continued to improve in strength, and was regarded as nearly well. On the eighteenth day, while romping with some of his little playfellows, soon after eating a large piece of plum-cake, he was attacked with convulsions, and immediately became paralyzed on his entire right side, accompanied with symptoms indicating cerebral pressure. He lingered two days, and died the twentieth day from the operation. Up to the moment of death his breathing remained free and easy; and so far as the croup was concerned, the operation may be considered a successful one.

CASE 2.—On the 18th of January, 1858, I was called very early in the morning, by Dr. Frayser, to open the trachea of a little girl six years old, who was in the last stage of pseudo-membranous croup. As it was evident the patient could survive but a very short time, I inserted a canula in the trachea below the thyroid gland. Professional business calling me to an adjoining State, I did not remain with the patient, but Drs. Frayser and Chase attended her during the day and used every effort to keep up respiration, but without avail. She died fourteen hours after the operation.

CASE 3.—In August, 1858, Dr. Richard Taylor requested me to perform the operation of tracheotomy on a patient of his, an Irish girl five years of age. On visiting her, in company with Dr. W. V. Taylor, we found an extensive œdematous swelling in the cellular tissue of the neck over the trachea, and on cutting down found the trachea at least three inches from the surface. It was opened and a tube inserted, but owing to the great tumefaction of the parts, it was difficult to keep the tube in place, and still more so to clear it of shreds of membrane and mucus, so that respiration could go on. The patient lived but six hours after the operation.

CASE 4.—November 18th, 1858, I was called on to open the trachea of a most interesting little girl three years of age, in the last stage of membranous croup. Her friends having been informed by Dr. White, the attending physician, of the uncertainty of the operation, and the slight hope resulting from it, were anxious to have the effort made.

Assisted by Drs. White and Rice, I inserted the tube, and for twenty-four hours we had considerable hopes of her recovery, when respiration, which remained free, gradually increased in frequency until it became very rapid, evidently from the extension of inflammation to the smaller bronchial tubes, and she died forty-two hours after the operation.

CASE 5.—This case, although not one of membranous croup, still, as it was attended with croupal symptoms, I report it here:—

At one o'clock, Tuesday morning, April 3d, 1860, I was requested by my friends, Drs. Grant and Allen, to meet them in consultation at the residence of Mr. Simon. In a few minutes I was with them, and found their patient, Flora, a little daughter of Mr. Simon, three and a half years old, suffering from most painful dyspnœa, with croupal cough and entire loss of voice. From Dr. Grant I learned that the disease began about a week previous, with sore throat, enlarged and ulcerated tonsils, with some febrile action; but under the treatment adopted, she was thought to be improving until the day before, when a croupy cough came on, with great difficulty of breathing, which symptoms were constantly growing worse.

At eleven o'clock I again saw the patient, with her attending physicians, and found her nearly insensible, skin livid, pulse rapid, with considerable swelling of the throat externally, below the angle of the jaws; an anxious expression of countenance, and a struggling for breath painful to behold. Believing tracheotomy still offered a chance for life, we advised it; and Dr. Grant having obtained the consent of the parents, I inserted a tube in the trachea which gave immediate relief. She soon fell asleep, color and warmth returned to the extremities, and no unfavorable symptom supervened. For the first few hours the discharge from the tube was similar to that usually met with in membranous croup, after which the character of the secretion changed to a tenacious straw-colored mucus. On the morning of the seventh of April, she began to breathe a little through the nose, and on the eighth we removed the tube, it having been worn four days and eighteen hours. She breathed partially through the wound two days, when it closed, and respiration went on naturally without difficulty.

Remarks.—In France, tracheotomy in croup has been resorted to a great number of times, with a degree of success varying much with different operators. In the *Journal des Connaiss Med.*, June, 1839, we find the following statistical report:—

	Operations.	Cures.	Deaths.
M. Amussat	6	0	6
M. Baudelocque	15	0	15
M. Blondin	5	0	5
M. Brettoneau	18	4	14
M. Gerdy	6	4	2
M. Roux	4	0	4
M. Trousseau	80	20	60
M. Velpeau	6	0	6
	140	28	112

Here are thirty-six cases operated on by five surgeons who ranked among the ablest operators of France, all of which proved fatal, while in one hundred and four other cases in which the operation was performed by three other surgeons, twenty-eight were successful.

M. André, one of the internes of the Hôpital des Enfans, published an account of the operations of tracheotomy, in croup, performed in that institution during the year 1856, as shown in the following table :—

AGE.	TOTAL.	DEATHS.		RECOVERIES.	
		Boys.	Girls.	Boys.	Girls.
15 months to 2 years	6	2	4	...	...
2 to 3 years	9	4	3	2	...
3 to 4 years	13	5	4	4	...
4 to 5 years	11	6	3	1	1
5 to 6 years	6	3	1	1	1
6 to 6¼ years	3	1	1	...	1
7 years	2	...	1	...	1
8 years	2	...	1	1	...
9 years	1	...	...	1	...
9½ years	1	...	...	...	1
	54	21	18	10	5

The success of M. Trousseau and other operators has induced many to regard croup, as it occurs in France, as a diphtheritic form of the disease, differing from the inflammatory croup which is generally met with in this country. The former is principally confined to the throat and larynx; hence it is regarded as more favorable for an operation than the latter, which seems to poison the system, so that, even if the air has free access to the lungs, the disease still extends from the trachea to the bronchial tubes, and to the substance of the lungs, terminating in pneumonia and death.

In January, 1857, Dr. Fuller read to the Royal Medico-Chirurgical Society, a paper on tracheotomy in croup, a synopsis of which is given in the *Med. Times and Gazette*, February 7, 1857. In regard to the supposition that there is a difference in the disease in the two countries, the reporter says: "The fallacy of this supposition, he then proceeds to demonstrate by reference to the writings of French authors, and to the recorded results of the post-mortem investigation of 311 fatal cases of croup in France; and he showed that in regard to its pathological effects, diphtheritis, when accompanied by croupal symptoms, does not, as compared with inflammatory croup, present any greater prospect of success for the operation than it does in the character of its accompanying fever or the condition of the throat externally."

Dr. West was placed by Dr. Fuller among those who opposed the operation. "Dr. West observed that he must beg to set Dr. Fuller right with reference to the opinions which he, Dr. West, had expressed, in the published lectures concerning the operation of tracheotomy. So far from being an opponent of it, he had ventured to dissent from authorities high as Dr. Cheyne and Mr. Porter, and to advocate its adoption most decidedly. At the same time, his own personal experience of the operation, amounting to about ten cases, and that likewise obtained by his colleagues at the Children's Hospital, had not yet afforded a single instance of recovery. At the Children's Hospital every possible attention was paid to the circumstances in which the child was placed after the operation, while its performance was not delayed till the case was hopeless, but was performed comparatively early; and appropriate antiphlogistic treatment, including the employment of mercurials, was sedulously continued afterwards. He still believed that the difference in the character of the disease in England and France had much to do with the different results of tracheotomy in the two countries; and his own experience was that the cases of croup in this country, in which the affection of the larynx was unattended either by bronchitis or pneumonia, were a minority, and a very small minority, of the total number."

The numerous cures in France may possibly be accounted for by bearing in mind the fact that the operation is there generally performed in the second stage of the disease, or as soon as effusion of lymph begins to take place about the fauces. Every physician who has practiced any considerable length of time has seen cases of croup recover, from the efforts of nature, or from the effects of medicinal agents, even when the false membrane extended far down into the larynx. I myself, a few months since, saw the case of a little boy, six years of age, who had been gradually growing worse from croup for ten days; a false membrane covered the fauces and extended to the trachea; respiration was exceedingly laborious, his face livid and swollen, and when I saw him he was insensible. I was urgently solicited by his parents, and others around his bed, to open the trachea as the only means of averting what they considered certain dissolution, but I was unwilling to perform the operation so long as there was any effort at respiration. The little fellow gradually revived and finally recovered, although it was many weeks before he regained his voice. Had I opened the trachea, from the condition he was in, I should have most certainly attributed his recovery entirely to the operation, and should have regarded it as a successful case of tracheotomy in croup. Doubtless many cases have been operated on that would have recovered if left alone, and the cure attributed to the operation. In a recent discussion at the Academy of Medicine, a distinguished member stated that in France, within the last few years, the mortality of croup had considerably increased, and he attributed this increase to the great number of operations which had been performed, thus adding to the dangers of the disease the dangers of the operation. If tracheotomy is performed early, before the urgency of the symptoms imperatively demand it, and the patient recovers, it is by no means certain that the recovery is due to the operation; hence the statistics of French surgeons, who advocate this treatment, are not considered by the profession in other countries as very conclusive in determining the value of the operation.

My own opinion is, that it should never be performed except as a *dernier ressort*, when every other remedy has failed and death seems inevitable.

ART. III.—*Report of a Case of* Coup de Soleil, *with Post-mortem Examination and Remarks.* By HUMPHREY PEAKE, M.D., of Yazoo City, Mississippi.

ON Thursday morning, July twenty-first, I was sent for to visit a negro man fifteen miles in the country, and arriving at half-past ten o'clock, was furnished with the following history:—

The patient, a stout negro man, of the age of about thirty years, has been a runaway for near six weeks. He was caught a few days ago and put to work in the field. The weather for the past three days has been intensely hot, the mercury having marked on Fahrenheit's scale a temperature of from 96° to 98° in the shade during the heat of the day. Late in the afternoon of yesterday, this man, while at work in the field with other hands, fell down and was carried to the house. He did not go to his dinner, but spent the time allowed for this purpose in an orchard. For the past three or four days he has been working bareheaded. He never spoke or gave any evidence of intelligence after falling, neither could he swallow. After having been carried to the house he was cupped by his master freely in the regions of the temples and on the back of the neck. He was also put in a hot mustard-bath, and afterwards had sinapisms applied to his legs and wrists. During the night he vomited an enormous quantity of half-chewed apples, which seemed not to have been affected in the least by the action of the stomach. It was observed that his skin was intensely hot, that he passed fæces and urine involuntarily, and that he seemed not to have any use of himself whatever.

Every expiration is attended with a kind of half groan and half sigh; tracheal râles are heard at the distance of several yards; the chest expands but very little, and the breathing is almost entirely diaphragmatic; the pomum Adami moves violently up and down with inspiration and expiration; the under jaw is considerably fallen, and a white froth is issuing from the mouth; a perfect tornado of râles and rhonchi are heard on auscultating the chest, and these entirely mask the sounds of the heart. On applying the hand to the chest, a sensation is communicated as of fluids boiling and bubbling beneath; the pulse is beating one hundred and sixty times in the minute, and is irregular in force as well as in rhythm; the eyes are open, and present that dry, glazed or horny appearance which the observant physician has not failed to notice sometimes in the moribund. I have no means of determining the temperature of the skin, but it literally burns my hand; it can be distinctly appreciated by holding the hand two feet from the body.

I informed the master of my opinion of the nature of the case, at the same time telling him that I thought nothing could be done. As a forlorn hope, however, and as fulfilling the most prominent indication, I proposed pouring a quantity of cold water upon him, taking care to explain that in all human probability he could live but a very short time, and that it was even probable that he would die under the affusion. This, indeed, turned out to be the case. I had thrown a couple of bucketfuls upon him by handfuls, when the breathing suddenly stopped. Fully a minute after he had drawn the last breath, he drew up his left lower extremity to a semiflexed position, curved his body considerably to the left side, and passed a quantity of fæces.

The post-mortem examination was held half an hour after death. On laying open the chest, near a pint of what seemed to be almost pure blood was found in each pleural cavity; the lungs, particularly the middle portions of the upper lobes, were intensely congested, and their tissue resembled more that of a hypertrophied spleen than healthy lung; a small portion of the lower lobes presented a normal appearance. After their examination, I wondered that the man could have survived so long. The heart seemed healthy, but the pericardial sac contained four or five ounces of a pale serum; the mucous membrane lining the great curvature of the stomach was much congested, and patches of it had a sodden appearance; the spleen was considerably enlarged. The brain was not examined for want of proper utensils, and also for the reason that a sufficient cause to produce death had already been discovered in the lungs. During the examination, I made an opening in one of the jugular veins; a jet of blood flowed from it with considerable force for some time, and formed an arc the chord of which would have measured three or four inches.

Remarks.—This, in my opinion, was a case of coup de soleil, better named by Dr. Bennet Dowler, of New Orleans, solar asphyxia. For the opinions of this eminent and observing physician concerning the malady, I beg leave to refer the reader to volume xii. page 474, of the *New Orleans Medical and Surgical Journal.* Who first advanced the idea that death, in cases of coup de soleil, was a consequence of an "expansion of the fluids," I am unable to say, but the investigations of Dr. Dowler have amply corroborated that opinion, and it remained for him to point out the fact that the effects of this expansion were to be sought mainly in the lungs and not in the brain, as has been, and is still generally supposed. No one, perhaps, has so laboriously investigated the symptoms and pathology of this disease as Dr. Dowler, and he has recorded this opinion: "Be it what it may, the cause of death begins, continues, and ends in the breathing apparatus."

That solar heat is the cause of coup de soleil we cannot doubt. In what manner this best operates other than by expanding the fluids, if in any, it is impossible for me to say. Neither can I determine whether the same effects would follow were the temperature of the body increased by other means, to the degree found in sun-stroke. That the "expansion of the fluids," aside from any other influence, should be sufficient to produce death, seems wholly probable. The quantity of blood in the body of an ordinary sized man may be roughly stated at thirty pounds. Now suppose the temperature of this quantity of fluid to be increased ten or fifteen degrees, which is evidently the case in the affection under consideration, in accordance with a well-known law of physics it will undergo a change by which it will be made to occupy more space. The blood in the animal body may be said to occupy a closed and elastic sac, and it may undergo some increase of bulk without the sac's being ruptured. If at any part the walls of this sac be thinner and less able to resist the pressure of the expansive force than another, an accumulation will take place at the weak point—the point of "least resistance."

A consideration of these propositions will enable the reader to understand why in some cases a blood-vessel *may* be found ruptured in the brain in cases of sun-stroke, and why, in the great majority of cases, the lesion is found in the lungs, the peculiar anatomical structure of which will furnish him a key to the solution of the phenomena.

Dr. Dowler has called attention to a remarkable phenomenon in cases of death from this disease—to the post-mortem circulation of the blood. He gives one or two cases in which the heart continued to act for an hour or more after death. He has also shown that in all cases of the worst form of coup de soleil, and which is the variety I have been considering, on opening a vein the blood flowed for some time in a jet. This was observed by me in the case of which I have given a report. It can be accounted for by keeping in view the propositions given above, without supposing the blood to circulate. Imagine an india-rubber bag to be inflated with air, or, better, suppose it to be distended with water; make a puncture in the bag, and the water will flow in a jet with a greater or less force, according to the greater or less degree of force employed in distending the bag. Just so in those cases of coup de soleil, the blood being inclosed in a short elastic sac, and expanded by heat, the sac is distended. If a vessel be opened, just as in the case of the india-rubber bag, the blood flows in a jet.

In relation to the prognosis in the worst form of coup de soleil—the solar asphyxia of Dr. Dowler—he has told us, what is no doubt true, that it is as certainly fatal as hanging or drowning. Cases of a milder form, however, which he terms solar exhaustion, recover as a general rule. The symptoms of the two varieties are totally different, with the exception merely of the falling down of the patient in the latter case, under the same circumstances as the victim of solar asphyxia. The latter form usually proves fatal in an hour. Dr. Dowler saw one case in which death did not supervene until fifteen hours after the beginning of attack. The patient, of whose case I furnish a report, survived about sixteen or seventeen hours.

From a consideration of the evident causes of the malady, its symptoms, and other points, a valuable hint may be gleaned, at least, in regard to the prophylaxis. One of the strongest indications is to reduce the great heat of the body which precedes and accompanies the attack.

ART. IV.—*Eclampsia in a Primipara at the Sixth Month of Utero-Gestation; Uterine Hemorrhage; Contraction of the Pelvis; Cephalotomy; Metro-Peritonitis; Recovery.* By ROBERT B. S. HARGIS, M.D., of Pensacola, Florida.

ON the 1st of August, 1859, I was hurriedly summoned to Mrs. M., a young woman, aged eighteen years, who was in the sixth month of pregnancy with her first child. According to her husband's account she had been quite healthy until a few weeks ago, when she complained of pain in her loins, and a sense of lassitude, associated with much mental depression and irritability of temper; costiveness, and frequent inclinations and attempts to urinate, without issue, were also troublesome attendants. This morning, while engaged in preparing breakfast, she complained of vertigo, and slight pain and fullness in the head, and on stooping to pick up a fork, she fell upon the floor in a frightful convulsion. I found her in bed writhing in a convulsive throe, which in the course of a few moments abated. Her general appearance indicated poverty of blood, with serous polyæmia; the face, as well as the body and extremities, was œdematous in a remarkable degree; even the eyelids were tensely infiltrated. During the intervals between the convulsive paroxysms she lay upon her back, with her eyes closed, and, excepting respiration, every other function of animal life was entirely suspended; thought, voluntary motion, and sensation were apparently abolished. Respiration was frequent and laborious, without stertor; the iris was contracted and inactive under the influence of light. Hemorrhage had been profuse, but was now moderate; the abdomen was considerably distended, and on a careful examination the gravid uterus could be felt, but no fœtal movements were appreciable; nor were any other indications of a living fœtus in utero manifested by auscultation, fœtal pulsations, or uterine *souffle.* On examination, *per vaginam,* the os uteri was found high up, and looking upward and backward; it was soft and patulous. I introduced the index finger into the opening, and met with the fœtal head presenting at the superior strait. Before withdrawing the hand, I endeavored to insinuate it into the uterus, with the intention of turning and delivering by the feet; but found the antero-posterior diameter of the pelvis so contracted that three fingers could scarcely be pushed above the brim. I immediately desisted, and sent for a *confrère,* who, after making a careful examination, agreed, without the slightest hesitation, as to the propriety of delivering immediately by craniotomy. This procedure was effected with considerable difficulty, with the perforator and crotchet, in a few moments, and from the exceeding great care observed in its performance, but little injury, if indeed any, was inflicted upon the pelvic organs of the patient. The placenta having been detached, no doubt during the first convulsive throes, came away with the fœtus entire. The convulsions ceased immediately after delivery, and considerable hemorrhage occurred, but was arrested in a few seconds. Respiration was now short and frequent; pulse 160 per minute, small and feeble; skin cool and moist; insensibility perfect. Sinapisms were applied to the spine and epigastrium, and a few drops of spirit of nitric ether, in camphor mixture, given, and ordered to be repeated every twenty minutes, till warmth should be restored to the skin. In the course of an hour and a half considerable reaction ensued, and a purgative enema, consisting of olive oil, castor oil, and infusion of flaxseed, was administered, which brought away an immense quantity of exceedingly offensive fæces, accompanied by a very scanty flow of turbid urine. The patient was now left in charge of a nurse, who was instructed to give an infusion of pennyroyal leaves, with a few drops of sweet spirits of nitre occasionally, and now and then a little water.

August 2.—Mrs. M. is still deprived of the power of feeling or perceiving; lies, as it were, in a profound slumber; has not moved since seen yesterday; skin very warm and moist; pulse 140 per minute, and somewhat fuller and stronger than last evening. A small quantity of urine that had passed during the night was preserved for examination this morning; it was perfectly free from deposits, and on application of the usual tests for albumen, the presence of a considerable quantity of that substance was apparent. Attributing the cause of the coma to urea or some other excrementitious substance that should have been eliminated by the kidneys, and satisfied that those organs were in a congested or hyperæmic condition, I ordered six wet cups to be applied over them, and the following purgative to be given immediately:—

℞.—Hydrarg. chlor. mit, grs. x;
Pulv. rhei., grs. xij.
M.

In the evening she was still insensible; bowels freely moved; urine had dribbled from the meatus pretty freely; pulse 156; skin moist, and very warm.

℞.—Hydrarg. chlor. mit, grs. viij;
Cretæ preparat, grs. xviij.
M. et ft. chart. vi. s.

One every three hours in syrup, with tinct. verat. virid. gtt. iij; re-apply cups to the lumbar region, and put emplast. vesicat., 2 by 6, to the nape of the neck.

August 3. A.M.—Aroused voluntarily at four o'clock this morning, and asked for coffee, and said she felt very badly; œdema of the eyelids and face has measurably disappeared; her legs also are much less swollen; complains of inability to move or draw up the inferior extremities without more or less pain within the abdomen; has a cough; tongue covered, posteriorily, with a dark-brown fur; pulse 118; abdomen tender and tympanitic; bowels somewhat irritable; had several small, greenish stools; urinated freely this morning; has slight discharge from the vagina, which is very dark and offensive. Suspend hydrarg. chlor. mit. and other remedies.

℞.—Potass. Chlorat, ʒij;
Aquæ fontan, ℥viij;
Tinct. verat. virid, gtt. xx.

M. One tablespoonful every third hour in some infusion of flaxseed; and inject into the vagina, occasionally, two or three syringesful of the following:—

℞.—Sodæ chlorinatæ, ℥ss;
Aquæ destillat, ℥xv.

P.M.—Has coughed a good deal during the day; has pain in the lumbar region; skin warm and moist; pulse 120; no motion of the bowels since morning; urinated well. Continue treatment.

August 4. A.M.—Had a restless night; coughed frequently; pulse 116; tongue brown; thirst; abdomen still painful on firm pressure, and tympanitic; bowels open; urination not so free; discharges from vagina increased in quantity, and less offensive.

℞.—Hydrarg. chlor. mit, grs. ix;
Pulv. ipecac. et opii, grs. xlviij.

M. Ft. pulv., No. 6, one alternating with the mixture of potassa and veratrum viride, at intervals of an hour and a half. Apply a cloth wrung out of equal parts ol. terebinthinæ et ol. olivæ.

P.M.—Has a better appearance; had some repose; feels refreshed; skin moist and warm; pulse 108; complains of nausea occasionally; tongue moist; less thirst; pain on pressure of the abdomen not so exquisite; less tympanites; has taken some light nourishment, but did not relish it.

August 5, A.M.—Says she feels better; vomited once in the night, and therefore, according to instructions, one dose of the chlorate and verat. virid. mixture was omitted; bowels acted upon twice during the night, stools feculent and colored with bile; has considerable cough, and pain in the chest; expectoration easy, but rather glairy and tenacious; skin cool and moist; pulse 108; discharging from the vagina freely; abdomen not so sensitive and not nearly so tympanitic. Continue chlorate mixture and powders.

P.M.—No apparent difference in her condition generally. She, however, micturates freely, and begs to be relieved of her cough. Increase the quantity of pulv. ipecac. et opii to grs. x, and apply emp. vesicat. to the chest.

August 6, A.M.—Responds cheerfully to the morning salutation, and says she feels much better; rested well last night; cough less troublesome; pain in the chest relieved; skin cool; pulse 108; slight pain on pressure of the abdomen; gaseous distention nearly absent; can flex the thighs toward the body with very little complaint; desires no food, but does not object to taking some broth. Suspend the calomel, and continue chlorate mixture and Dover's powder.

August 7.—General aspect infinitely better; cough abated; discharge from vagina moderate, and free from fetor; tongue cleaning; was inclined to vomit during the night; had not taken a dose of the chlorate mixture for six hours; pulse 94; desires food. Continue the mixture in smaller doses, and let her have a Dover's powder at night, if not disposed to rest well, or if cough is troublesome.

August 8.—Greets me cheerfully; rested well after taking the Dover's powder; skin quite natural; tongue clean; can move the limbs freely without pain; coughs occasionally; expectorates a little at a time and easily. Prescribed infus. anthemidis, a wineglassful three or four times a day, and tinct. opii camph., with syrup scillæ for her cough.

August 9.—Perspired freely last night; looks pale; complains of weakness; coughs every now and then; bowels open; urine free; desires food; is allowed boiled chicken, with a small quantity of port wine at meal times. Continue infus. anthemid., and tinct. opii camph. to allay cough.

August 11.—Says she felt pretty well yesterday; is sitting up; has been changing her clothes; looks pallid and fatigued; respiration hurried and loud; pulse 120 and small; tongue clean, but anæmic; appetite good; remarked that she did not know how weak she was till she got up to arrange her dress; did not complain of anything else but debility. Her bowels were in a good state, and appetite keen.

I waited about half an hour after she resumed the recumbent position, and found her pulse had fallen to 90, her respirations being very little more frequent than natural. On application of the stethoscope over the cardiac region, venous murmurs were clearly appreciable; and along the course of the large veins of the neck a venous hum was quite audible. "Here," I thought, Professor Meigs would say, "is a case in which the organs are imperfectly innervated, while the patient is in the act of taking exercise from want of power to supply the brain with the normal quantity of oxygenated blood. She has too little oxygen, and the disease is (*now*) debility of her endangium." I would not affect to agree with the learned professor entirely. Nevertheless upon this hypothesis I prescribed—

℞.—Potassæ chlorat, ʒij;
Tinct. ferri. chloridi, ʒiij;
Aquæ destillat, ℥viij.
M. One tablespoonful three times a day.

Under this treatment, with a pill of aloes occasionally, Mrs. M. gradually improved, and in ten days recovered sufficiently to resume her ordinary duties.

ART. V.—*Cases of Colloid Tumor of the Abdomen.* By S. D. GROSS, M.D., Professor of Surgery in the Jefferson Medical College of Philadelphia.

A GENTLEMAN, aged forty-five, married, of temperate and industrious habits, and a resident for many years of Louisville, had been the subject of occasional colicky pains, with a sense of fullness in the abdomen for upwards of four months, when, early in November, 1854, he applied to me for advice. On inquiry, I was told that he had been obliged for some time past to unbutton his pantaloons occasionally, in order to render himself comfortable, the constriction of the waistband causing a sense of tightness in the abdomen and some difficulty in breathing. His general health was as good as usual; he had a fair amount of appetite, his strength was unimpaired, and he was able to attend to his business. On examining the abdomen, I found it to be exceedingly hard and prominent, owing to the presence of a large tumor, extending, on the one hand, from the epigastric region low down into the pelvic, and, on the other, on each side, deeply into the loin. Inferiorly it was somewhat of a pyramidal shape, with sharp, well defined edges, under which it was easy to insinuate the fingers. The umbilical region was very prominent, and the whole abdomen was excessively hard. The tumor was free from pain, and immovable. What was very remarkable, the patient was entirely unconscious of its existence. Having seen a similar case a number of years previously, I became at once satisfied that it was of a colloid character.

The gentleman, warned of his danger, abandoned his business, and began the use of a gentle course of alteratives, with mild laxatives, strict attention to the diet, and a sorbefacient ointment to the abdomen. In pleasant weather he was permitted to go out into the open air, generally on foot, as riding in his carriage was productive of soreness in the abdomen. My former colleague, Professor Austin Flint, saw him with me in February. The only perceptible change during the last three months was the existence of a small quantity of water behind the umbilicus, the collection being about the diameter of a breakfast plate, with distinct fluctuation, and an occasional twinge of pain. In the spring, as the weather became warm, he walked out more frequently, and early in May went to Crab Orchard Springs, Kentucky, where he spent a month, without, however, any apparent benefit. In July he visited several of the principal watering-places in Virginia. While at the Hot Springs, early in September, he was suddenly taken alarmingly ill with pain in the abdomen, attended with excessive tenderness on pressure, high fever, and disorder of the digestive organs, as nausea, diarrhœa, and want of appetite. After suffering in this way for about two months, he finally reached home on the fourth of November, in a state of the most perfect emaciation and exhaustion. The tumor had apparently neither increased nor diminished in size, shape, or consistence, but it was somewhat more tender on pressure, and its surface was a little more lobulated. No fluctuation could be discovered anywhere. The patient lingered until the morning of the eighth, when he expired.

The body was examined nine hours after death, in presence of Professor Flint.

The peritoneal cavity was completely obliterated, except in a small space corresponding with the upper part of the right lobe of the liver. The walls of the abdomen adhered everywhere to the surface of the tumor, and in attempting to separate them the knife repeatedly entered the folds of the small bowel. The tumor occupied the whole abdominal cavity, from the neck of the bladder to the diaphragm, which was pushed high up toward the chest. All the viscera were involved in it, though free from colloid. The folds of the bowels, large and small, were included in and compressed by it; the stomach was in the same condition, and was apparently much reduced in size; its mucous membrane was slightly red and thickened; the pylorus was sound. The liver was natural, but the greater portion of it was involved in the tumor; the inferior and right portions alone were free. The gall-bladder had also suffered from compression, and contained about an ounce of dark bile. The spleen was completely imprisoned, as was also the pancreas; both organs being sound. The kidneys lay exterior to the tumor, and were perfectly natural. The bladder was contracted, and compressed at its neck, where there was a large mass of colloid. The prostate gland was normal.

The vessels of the abdomen, the lungs, and heart were healthy. The brain was not examined.

One of the most remarkable features of this immense tumor was the existence of a large pouch in front of the bowels, more than nine inches in diameter, and capable of holding more than a quart of fluid. Its surface had a rough, muddy appearance, as if it had contained fæcal matter, and been covered with coagulating lymph. How it had been formed is a subject of conjecture. The most plausible supposition is that it had been induced by the escape of fæces, probably a very small quantity, the result of ulceration and perforation of the bowel, leading to inflammation, and the deposition of plastic matter. No such opening, however, was detected. Was the fluid present during the preceding winter and spring contained in this pouch? or was the pouch formed in September, during the severe illness, soon after the arrival of the patient at the Hot Springs?

The colloid character of the morbid growth was well marked throughout. The cysts or cavities varied from the size of a small currant to that of a hazel-nut, and were for the most part of a spherical shape. Their contents were of a thick, jelly-like consistence, and of a white appearance, with a shade of greenish.

The tumor was very firm, and grated distinctly under the knife. Its thickness in several places was upwards of three inches, while its breadth and length were each upwards of one foot. As far as could be determined during the dissection, it seemed to have been developed in the omentum, all trace of which was effaced.

Another enormous colloid tumor came under my observation in 1840, in a laboring man, aged forty-nine, whose body I examined along with the late Dr. Mason, of Cincinnati. The following abstract of the case is copied from my "Elements of Pathological Anatomy," p. 190, third edition, 1857:—

> "It extended from the pelvis to the liver and diaphragm, surrounded the colon and part of the stomach, and concealed from view nearly the whole of the abdominal viscera. Its thickness was from two and a half to three inches; in

length it measured nearly one foot, and in breadth more than eight inches. Its weight was estimated at twenty-five pounds. It was composed of thousands of agglomerated masses, from the size of a grain of mustard to that of a hickory-nut, and seemed to have been developed in the peritoneum, or in the great omentum, the latter of which was completely effaced. The liver was smaller than natural, probably from the pressure exerted upon it by the tumor, but in other respects it was perfectly sound, as were likewise the other viscera, both abdominal and thoracic. The disease was first noticed in July, 1837, as a small, hard, circumscribed tumor, just above the pubes."

In 1858, I exhibited at a meeting of the Philadelphia Pathological Society a specimen of colloid growth, presented to me by Dr. Van Wyck, of this city, being a portion of an enormous tumor occupying the entire peritoneal cavity. It weighed upwards of twenty pounds. The patient was a man of fifty-four years of age, a tailor by trade, of spare make, and temperate habits.

"The morbid growth had been first observed about two years before death, having commenced in the left iliac region, from which it gradually extended in different directions until it filled the whole abdomen. Dr. Van Wyck had attended the man for about twelve months, when the tumor was nearly as large as at the post-mortem examination. The principal symptom was an extreme sense of weight and oppression in the abdomen, attended with considerable dyspnœa, especially when he suffered from constipation, to which he was very subject. He was but little emaciated, and there was hardly any œdema of the extremities. On dissection, it was found that the whole peritoneal cavity was occupied by an enormous colloid mass, reaching from the pelvis up to the diaphragm, which it had pushed high up into the chest, covering completely the abdominal viscera, and effacing all trace of the serous cavity. It weighed upwards of twenty pounds, and was fully two inches and a half in thickness, whitish in its appearance, and composed of numerous characteristic cysts, from the volume of a mustard-seed to that of a small hickory-nut. All the abdominal, pelvic, and thoracic viscera were sound. A microscopic examination by Dr. Da Costa showed small cells, indistinctly nucleated, fibres, and an amorphous basement substance."

ART. VI.—*On the Local Treatment of Gleet by Compression.* By G. P. HACHENBERG, M.D., of Springfield, Ohio.

IN my treatment of this often tedious malady, I have been induced to try the application of compression to relieve the inflamed or ulcerated urethra. This course being happily successful, I trust the publication of its results may prove of value, and be acceptable to the profession.

The obstinacy frequently met with in this disease may be due to the irritating character of the morbid secretion of the urethra, and the specific character of the inflammation, which, being of a low standard, deprives the affected parts of that recuperative power so manifest in most other parts of the body. I will not dwell upon the character of this inflammation; let it suffice that it exists, and that it demands a rather special treatment. How frequently do we witness the local application of absorbents, astringents, caustics, and other remedies, that for a time change the character of the inflammation, fail to remove the malady beyond its characteristic stage of torpidity! It is not difficult to perceive why many of the remedies administered to induce a new action of the affected parts may become the very agents of protracting rather than shortening the disease.

The more rational treatment of protracted cases of gleet in the male, is to combat the inflammation with our remedies, and carry it, as it were, from the stage we find it toward a cure, without exciting additional inflammation, under the idea of changing its character; a plan sometimes practicable in certain early stages, and in other parts of the body, but certainly not available in obstinate cases of gleet.

The remedy that will fulfill in a great measure the indication in question is gentle and prolonged compression by distention of the urethra. The instrument which I use for this purpose is made of different sizes, and is composed of ivory, or horn highly polished, and is simply a short bougie with a button or shoulder turned at one end to prevent it from slipping into the urethra.

The following method may be observed in its use: Before its introduction, at bedtime, the urethra should be well washed out with castile-soap and water, followed by a mildly astringent lotion. An instrument of a size, which will well fill the urethra, is then oiled, and with gentleness introduced. In a short time the passage will accurately and tenaciously grasp the instrument, and it is retained for the night without support or bandage. In the morning it is removed, followed by another cleansing process, which is repeated occasionally through the day. The application should be renewed every third or fourth night, until the cure is accomplished, which will occur after the third or sixth application. In removing the instrument in the morning there is sometimes a difficulty in getting it out of the urethra, so firmly is it held within its grasp. A gentle rotatory movement, however, will soon disengage it, its exit being then readily accomplished by traction.

The immediate effects of the use of this plan of treatment are uniformly of an efficient character. The first application often increases the tenderness of the parts, and even sometimes causes a slight hemorrhage; but a tolerance of the use of the instrument is soon established, until it no longer becomes a source of inconvenience. As this tolerance is established, we are favorably progressing with the cure of the case, for in the same ratio the discharge diminishes and soon ceases to show itself entirely.

In some cases, before the introduction of the instrument, I sprinkle it with calomel, tannin, or morphia, according to the indication. However, in the most of cases these topical applications are unnecessary.

The following cases are presented to illustrate more particularly the efficacy of this plan of treating gleet and certain forms of spermatorrhœa:—

CASE I.—In 1857, Mr. ——, aged twenty-five, of sedentary and temperate habits, had gonorrhœa for the second time, and, owing to neglect in the treatment, the disease terminated in obstinate gleet, which resisted many of the usual remedies for more than six months. Injections and blistering failed to give relief, and a cauterization was once resorted to, which greatly aggravated the disease. The bougie was likewise tried, medicated and otherwise, but without apparent benefit. A respite of all treatment was allowed for several days, when the compress was applied as described. The patient slept well through the night, and on removing the instrument in the morning there was some discharge of blood, accompanied with tenderness. In three or four days this had subsided, and the instrument used as before. Less tenderness and no bleeding followed this application. Three or four more applications were made at proper intervals, under which the discharge finally ceased, leaving the patient free from the disease ever since.

CASE II.—In the same year, Mr. ——, aged thirty-five, had gleet for nearly a year, for which he said he had been a patient at a Northern hospital for several months. The disease resulted from repeated attacks of gonorrhœa and a dissipated course of living. Temperance was enjoined, with physical and mental quietude; his bowels regulated with aperients, and the compression resorted to every fourth and fifth night for about three weeks. The discharge being purulent and viscid, the instrument was medicated with calomel with much benefit. The discharge gradually ceased, and the patient was dismissed. In this case there was a ready tolerance in the use of the instrument.

CASE III.—In 1858, Mr. —— was attacked with syphilis shortly before leaving California, and had nothing done for his relief until his arrival at this place. Under the usual local and constitutional treatment, the patient rapidly improved. After the healing of the external chancres, which were situated principally under the prepuce and on the gland, a gleety discharge followed, which proved to be of a very intractable character. Injections, cauterization with Lallemand's instrument, the bougie, and other remedies alike proved inefficient. Compression as described was finally resorted to every third night for two weeks, under which the local symptoms subsided, leaving the patient free from what we supposed to be a chancre within the urethra.

CASE IV.—A student was a victim to spermatorrhœa for many months, the result of the pernicious practice of onanism. Believing the nocturnal emission to be induced by the morbid sensibility, as well as the congested condition of the caput gallinaginis, I ordered compression to be applied to it by the common flexible bougie of large size. The instrument was well oiled, and carefully introduced into the urethra and retained for the night. This was repeated once a week for two months, to the complete relief of the patient. The use of the bougie caused little or no inconvenience.

ART. VII. — *Case of Universal Tuberculosis.* Reported by I. P. KLUGE, M.D., Physician to the Panama Railroad Company on the Isthmus, and formerly one of the Resident Physicians at the Emigrants' Refuge Hospital, New York.

MARIA SUSS, native of Germany, aged twenty-three, died February 8th, 1854, at the Emigrants' Hospital, in New York. The patient was admitted into Ward 26 of this hospital, about one month ago, complaining at the time only of suppression of the menses. Shortly after her admission, however, symptoms of a latent and more serious disease developed themselves. She became more and more emaciated from day to day, complained of a dry, hacking cough, which, at the time of her admission, and prior to that, she had not been troubled with. Upon a careful physical examination, I became satisfied that both lungs were infiltrated with tubercles, although the sputa and auscultation did not indicate any great degree of softening. The treatment adopted was that usually employed in tuberculous and strumous cases—nutritious diet, stimulants, tonics, ol. jecoris aselli, and phosphate of lime.

The patient sank so suddenly and rapidly, notwithstanding all treatment, that both my colleague, Dr. Rothe, and myself came to the conclusion that the case was one of acute phthisis, and, probably, of universal tuberculosis also. There was no diarrhœa at any time. The patient's skin was very dry, and unusually pale and shriveled.

An autopsy was made February ninth, twenty hours after death.

The appearance of the heart was pale and bloodless, but there was no evidence of organic disease; the pericardium was distended with fluid, and upon being opened was found to contain four ounces of limpid, straw-colored serum; the left lung was greatly atrophied and infiltrated with tubercles throughout its whole extent—some of these were crude, others had become calcareous. There was œdema of the inferior lobe of this lung, and old pleuritic effusion on right lung, bands of lymph connecting the pleura pulmonalis firmly with the pleura costalis. The right lung was also filled with masses of tubercle, and there was œdema of the inferior half. The liver was much enlarged, very pale, and almost white; and had undergone fatty degeneration, as shown by the appearance presented by the scalpel when drawn through its substance, as well as by the paper test. The mesenteric glands also were much increased in size, and as large as pigeons' eggs, and indurated. A glandular mass of much the same appearance and consistence, and of the size of an almond, was discovered on the external surface of the pericardium. The mesentery itself, omentum, and the external surface of a great portion of the small intestines, were studded with small, granular tubercles, forming prominences and elevations. These latter phenomena I had never observed in any previous post-mortem of a case of tuberculosis, and believe them to be of by no means common occurrence.

The spleen was much congested, of a bright, cherry-red color, and filled at intervals of one and two inches with large tubercles. The peritoneal covering and broad ligaments of the uterus were also filled with tubercles, but none could be detected in either the substance of the uterus or ovaries; the latter were very pale and anæmic. The woman must have had leucorrhœa, which she did not state, as was apparent from the condition of the cervix uteri and the mucus secreted in it and about the os. The uterus was considerably indurated; its general appearance, however, was not that of carcinoma, although when the knife was drawn through its tissues the peculiar grating sensation was communicated. Serous cysts, resembling gelatinous polypi or hydatids, of the size of an ordinary walnut, were found adherent to the external coat of the small intestines, near their junction with the mesentery.

Both kidneys were normal; the pancreas was enlarged, indurated, and adherent to the pyloric portion of the stomach; the mucous membrane of the stomach was much congested, which accounted for the patient's inability to retain solid food, as well as the acute pain she latterly experienced in the gastric region. The mucous coat of the duodenum had undergone great softening, and could easily be scraped off with the handle of the scalpel, though there was no ulceration or other abnormal condition of the mucous surface of other portions of the alimentary canal observable. The brain and spinal marrow were not examined.

Bi-Monthly Abstracts;

OR, BI-MONTHLY NOVELTIES IN MEDICAL, PATHOLOGICAL, SURGICAL, OBSTETRICAL, PHYSIOLOGICAL, AND CHEMICAL SCIENCE.

SURGERY.

BY S. W. GROSS, M.D.,
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I.—*A Statistical Examination of the Operation of Deligation of the Primitive Iliac Artery, embracing the Histories, in abstract, of Thirty-two Cases.* By STEPHEN SMITH, M.D., Surgeon to Bellevue Hospital, New York. (Amer. Journal of Med. Sciences, July, 1860.)

DR. SMITH having had occasion to ligate the primitive iliac artery for aneurism of the external iliac, makes his case the basis of a very valuable contribution to the literature of deligation of arteries, and gives, in abstract, the histories of thirty-two recorded cases. This difficult operation was first performed by Dr. Gibson in 1812, and the second instance was under the charge of Dr. Mott in 1827, the patient being perfectly cured on the forty-fifth day. In this connection it is interesting to remark that fifteen of the thirty-two cases have been in the hands of American surgeons, and that in three the operation resulted in recovery.

The indications which have called for the ligation of the primitive iliac artery are represented by Dr. Smith under the following heads:—1. For the arrest of hemorrhage. 2. For the cure of aneurism. 3. For the cure of pulsating tumors, which proved to be malignant growths. 4. For the prevention of hemorrhage in the removal of a morbid growth.

1. For the arrest of hemorrhage, we find eleven cases recorded, of which ten proved fatal, the mortality being 91 per cent. The earliest period of death after the operation was four hours; the latest, the twenty-fifth day—the average being eight days. The cause of death in four instances was secondary hemorrhage; in five, immediate exhaustion; in one, peritonitis. In two of these cases the procedure was instituted for wounds involving, in one, the external iliac, in the other, the internal epigastric; in one for secondary hemorrhage from the stump after amputation of the thigh; in two from rupture of an aneurism; in three from hemorrhage after deligation of the external iliac; in two from incisions into aneurismal tumors; and in one from rupture of the internal iliac in an attempt at its ligation for aneurism of the gluteal artery. In the case of recovery the operation was performed for hemorrhage after ligature of the external iliac.

2. In the second group fifteen cases are reported, five resulting in recovery, the mortality being $66\frac{2}{3}$ per cent. The patient of Dr. Mott was permanently

cured and is still alive, the artery having been ligated for aneurism of the external iliac. The case of Dr. Smith comes under this division, the right femoral and external iliac arteries being the seat of the aneurism. The patient died from hemorrhage on the forty-eighth day. Of these fifteen cases, all but one were males; the right external iliac was affected in eight instances, the left in six, and in one case the side is not given. The cause of death in the ten fatal cases was, in two, hemorrhage; in two, exhaustion; in one, gangrene of the leg; in one, gangrene of the aneurismal sac and the surrounding parts; in one, erysipelas; in one, dysentery; in one, suppuration of the sac; and in one, peritonitis.

3. The common iliac was ligated four times for malignant tumors simulating aneurisms. In the case of Mr. Guthrie, his colleagues agreed with him that it was one of aneurism, but the tumor afterwards proved to be malignant. This was the only one of the four patients who recovered.

4. For the prevention of hemorrhage two cases are recorded, one being for encephaloid disease, the other for aneurism by anastomosis, in a child six weeks old. Both terminated fatally, the causes of death being, respectively, exhaustion and abscess of the knee.

In reviewing the facts contained in this paper, it appears that in seventeen cases the right primitive iliac was ligated, and in thirteen, the left primitive iliac, the operation being required, directly or indirectly, twenty-four times for aneurism. The tumor involved the right external iliac eleven times, the left seven; thus showing the greater liability of the former to aneurism. That males are more exposed to the exciting causes of aneurism is verified by the fact that twenty-seven of these cases occurred in males, and three in females; the sex not being given in the remaining two; the ages of the patients varying from six weeks to fifty-nine years. The date of separation of the ligature is mentioned in twelve cases, the shortest period being eight days, the longest thirty-six days; the average being twenty-three days. In one case the silver wire was used; and in another the ligature was composed of catgut; the latter came away on the eighth day and was found to be dissolved. That the operation of casting a ligature around the common iliac is one of the most unsuccessful in all surgery, is shown by the fact of twenty-five of the thirty-two cases having died, being a mortality of about 78⅛ per cent.

From numerous trials upon the dead subject, Dr. Smith advises the following incision as affording the most ready access to the artery:—

Commence the incision just anterior to the extremity of the second false rib (eleventh) and terminate it just above the internal ring by a sharp curve inward of one inch; this incision will be about seven inches in length, and will pass about an inch and a half within the anterior superior spinous process; the curve at the lower extremity will allow the most perfect freedom in the elevation of the peritoneum, and the complete exposure of the artery.

II.—*A Case of Stone in the Bladder; High Operation; unsuccessful Result.* By JAMES R. WOOD, M.D., Surgeon to Bellevue Hospital. (American Med. Times, vol. i., June 2, 1860.)

Dr. Wood performed the supra-pubic operation of lithotomy upon a man, fifty-eight years of age, the method being preferred on account of the remains of an old stricture, and a greatly enlarged prostate. A calculus, about the size of a pigeon's egg, was removed, and during the operation the peritoneum was ruptured, allowing the protrusion of a portion of the small intestine. The wounded membrane and transverse fascia were united by two silver sutures, and the wound in the bladder by two more, and the external incision was closed in the same way, and a flexible catheter secured in the bladder. On the second day after the operation, the patient died. There were slight signs of peritonitis; the peritoneum was found to have been ruptured at the point of its reflection from the bladder, as well as where it is reflected on to the abdominal wall, and that portion which had been tacked together with the sutures was united. There was no extravasation of urine, but the urinary apparatus was very extensively diseased.

Our object in adverting to this case is to present our readers with a few points in regard to the high operation as performed in New York. Dr. Wood has collected ten cases in which this method has been practiced in that city, and appends to his paper brief histories of each. Professor Parker has operated four times, the patients being adults, and three females. One case was fatal four days after the operation, and occurred in a male subject. Dr. Krackowitzer has had three cases, two of which were in young children, and all died in from ten hours to three days after operation. Dr. Noeggerath operated successfully upon a boy, eight years of age, and removed a large calculus. Dr. Hewit, formerly of the United States army, operated upon a young man, who made a rapid recovery. Of these ten cases we, therefore, find that only five were successful, adding more evidence against an operation which is known to every one to be fraught with great danger.

III.—*New Operation for Subunguial Exostosis.* By Dr. Debrou, of New Orleans. (Gazette Hebdomadaire, June 1, 1860.)

Exostosis of the last phalanx of the great toe, although a rare affection, finally gives rise to much pain and impediment in walking. It is of a fibro-osseous nature, and may be situated on the distal phalanx of any of the toes or fingers, although the great toe is most obnoxious to this excrescence. The cases of M. Debrou, five in number, show that the pedicle is always situated on the summit of the phalanx, while its base lifts up the nail, and contains fibrous tissue, covered by a red membrane of a mucous appearance, which bleeds readily.

Cauterization, as practiced by André, and excision, as performed by Dupuytren, Liston, and other surgeons, by means of a stout bistoury, aided, if necessary, by the chisel, and disarticulation of the phalanx, are all, in M. Debrou's opinion, unworthy of reliance. The danger in excising the excrescence on a level with the bone, is its liability to return, as has been observed in several instances; and to overcome this difficulty the author has devised the following operation. The nail is split from before backward with a pair of sharp scissors, and its two halves are torn out. An incision is then made upon the back of the phalanx, which is prolonged upon the sides of the tumor, so as to circumscribe it and lay bare the summit of the phalanx. By means of cutting pliers the bone is divided in front of its base, thus getting rid of the entire exostosis, with a sound portion of the bone, which effectually prevents its return. The base of the phalanx being left in place, the articulation and tendons are preserved. When the exostosis affects the last phalanx of the small toes and the fingers, we should not hesitate to disarticulate, as the phalanges are of so small dimensions that it would be useless to preserve a part of them.

IV.—*Application of the Button Suture to the Treatment of Varicose Dilatation of the Veins.* By NATHAN BOZEMAN, M.D., of New Orleans. (New Orleans Medical and Surgical Journal, July, 1860.)

For the radical cure of varix of the saphenous vein, Dr. Bozeman recommends the application of the button suture, in the same way as in the treatment of vesico-vaginal fistule. He thinks the advantages of the silver wire over the silk thread are, that it is more innocuous, and that it divides the vein more readily and effects its occlusion with less risk. The button, acting as a shield, affords the skin over the vein protection against undue pressure. The author, in operating, prefers the patient being placed in the erect position, for the reason that the vein is distended, and the needle can, therefore, be carried around it with more facility, and with less danger of penetrating its coats. He reports two cases, in which the button suture was tried, one being completely cured, the other greatly relieved. He also operated successively in the same way upon a large varicocele, the suture apparatus being removed on the seventh day, when the veins were thoroughly consolidated.

V.—*On Myeloid Tumors.* By R. P. HOWARD, M.D., Professor of Clinical Medicine in McGill College. (Pamphlet, 1860, and Ranking's Half-Yearly Abstract, No. xxxi., 1860.)

From the journal above quoted we extract entire the conclusions of Dr. Howard respecting myeloid tumors. Our own opinion is that these growths are malignant, and partake most probably of the nature of encephaloid:—

1. Myeloid tumors may occur with about equal frequency in both sexes.
2. Local injury was the apparent exciting cause of the growths in about one-fourth the entire number, and in thirteen of the thirty-eight cases no cause could be assigned.
3. Myeloid tumors occur chiefly before thirty years of age, for 76 per cent. of the cases were under that age, and 90 per cent. were under forty; they may occur at as advanced an age as seventy-four.
4. While myeloid and cancerous tumors are of about equal frequency under twenty, myeloid are more frequent than cancerous in the ratio of forty-seven to twenty at the decade between twenty and thirty.
5. The bones are of all parts of the body most prone to myeloid growths; in about three-fourths of the cases it is the long bones which are implicated; and in perhaps all cases the disease begins in and is confined to the articular extremities of such bones.
6. The condyle of the femur is the part of the body most obnoxious to these tumors, probably the head of the tibia next, and the superior maxilla next.

Several other localities exhibit about equal susceptibility, viz.: the head of the humerus, the head of the fibula, and the inferior maxilla.

7. No bone is probably exempt.

8. Of the soft parts, it is chiefly the fibrous tissues, and especially those in proximity to bones and articulations, that are most liable to myeloid growths; but they have been rarely seen in the lungs, in the neck, in a lymphatic gland, and in the mamma; in the last site, it was probably associated with cancer.

9. These growths very seldom extend into an articulation; this event having been noticed only twice in twenty-five cases, in which the disease occupied the articular extremity of long bones: even should the articulation be entered by the growth, the cartilages are not usually implicated.

10. Secondary inflammation occasionally is excited in the contiguous articulation, but it is of an adhesive rather than a suppurative character.

11. Data are wanting to determine the average duration of life when myeloid tumors are not interfered with.

12. The average duration of life after removal of myeloid tumors far exceeds its average duration after removal of cancerous; a large proportion of the subjects of the growth were alive five years and eight months subsequently to the operation.

13. Of two deaths which followed removal of the tumor at the respective intervals of five and two years, the cause was accidental and not connected with the disease.

14. So far as we know, pure myeloid disease exhibits little proneness to recur after removal, there being only one instance yet recorded of that event;* but, then, in only half the cases collected, is the subject of recurrence mentioned, and in many others sufficient time had scarcely elapsed to justify any opinion.

15. While medullary cancer recurs, on the average, in seven months, and scirrhous cancer in fourteen, myeloid tumor, in eighteen instances, had not returned after an average interval of twenty-six months, and in twelve of these, or two-thirds, the period of non-recurrence was three years and five months.

16. Myeloid may exceptionally recur as myeloid both locally and in remote organs; the lymphatics enjoying immunity, and there being no cachexia.

17. It may coexist in an external part, in the lungs and in a lymphatic gland, and even prove fatal without the presence of constitutional cachexia.

18. The same growth may comprise both myeloid cells and so-called "cancer cells," although in general appearance resembling myeloid tumors, and be succeeded by similar compound tumors in the lungs and spine, with marked cachexia.

19. A tumor apparently myeloid, even on microscopic examination, may be followed after removal by genuine open cancer in the vicinity of the original tumor.

20. A tumor composed chiefly of fibro-plastic structure, and partly of myeloid, may be attended with enlargement of the glands, and, when removed, be rapidly

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* Dr. Howard has purposely omitted some cases of myeloid disease of the maxilla, which reappeared after removal, apparently in consequence of having been only partly excised.

succeeded by cancer at the site of removal and in the lungs, the glands, though enlarged, not being cancerous.

21. Of forty-two examples of growths apparently myeloid, two of which, however, contained cancer-cells, and one fibro-plastic elements, there were five in which the growth either recurred after the removal, or had involved remote internal organs.

VI.—*Fistulous Ulcer in front of the Larynx.* By JOHN WATSON, M.D., Surgeon to the New York Hospital. (American Medical Times, vol. i. No. 1, 1860.)

Dr. Watson reports two cases of fistule, connected with a synovial bursa, near the hyoid bone, which existed in front of the larynx, both occurring in females. The history of these cases is almost identical, and a short abstract of one will suffice to point out the nature and treatment of this little-known affection. A young lady, aged twenty, for two or three years had been troubled with a papillary ulcer over the thyroid cartilage, which was the seat of a constant discharge of a glutinous fluid resembling inspissated synovia. A delicate probe introduced into the orifice was readily passed up in the median line of the neck for about an inch under the integuments, in front of the thyro-hyoid ligament, and rested at the lower border of the hyoid bone. On removing the probe, and manipulating the parts, a delicate indurated track could readily be detected. Several unsuccessful operations, with a view to close the orifice, had been performed, when Dr. Watson advised injecting the fistule first with water in order to cleanse it—afterwards throwing in a solution containing five grains each of corrosive sublimate and hydrochlorate of ammonia to the ounce of water. A single application arrested the discharge, and in a few days the fistule was cured.

VII.—*On the Treatment of Purulent Ophthalmia of Infants and Children.* By PROFESSOR STELLWAG VON CARION. (Oesterreich Jahrb. für Kinderheilkunde, und Zeitschrift für Medicin, Chir. und Geburtshülfe, xiv. 2, 1860.)

Professor Stellwag recommends the application of pressure to the eyes by means of a suitable bandage in cases of purulent ophthalmia of infants, and states that he has obtained far more favorable results from this mode of treatment than from any of the methods usually employed. It is particularly indicated in those cases where the inflammation has reached a high degree, and where, in consequence of it, the swelling is considerable. If properly applied, it not only protects the eye from glaring light, from the introduction of foreign matters into the conjunctival sac, and hinders the patient from rubbing or touching the swollen lids, but it reduces also the serous swelling of the parts, and keeps down the growth of granulations in a very marked degree. It prevents the accumulation of purulent matter, as it presses the two layers of the conjunctival sac firmly against each other, and forces the secretions to come out between the edges of the eyelids. The dressing consists of a compress of fine charpie, which is equally distributed over the closed eyelids, and kept in position by an elastic bandage making more or less pressure on the parts. As the proper material for such a bandage, Professor Stellwag advises a strip of the finest flannel, two inches and a half wide and eight inches long, which is cut obliquely across the fibres of the texture, and to the two tapering ends of which tapes of about half an inch in width are attached; these tapes are carried around the head, and then tied into a knot on the forehead. A very good substitute for charpie is carded cotton, which, on account of its greater elasticity, may be in many cases even preferable to the former. The dressing must be frequently changed, in order to remove the pus which has accumulated underneath it, and to cleanse the eye, as the secretion on drying converts the compress into a hard mass with an uneven surface, unfit for maintaining an equal pressure. It is well to soak the compress in some astringent solution before applying it. As cotton absorbs moisture with more difficulty than charpie, a layer of moistened charpie may be spread over the eyelids, and the cotton applied over it. When the disease is of a milder character and the amount of the secretion but small, the author recommends lead-water as best adapted to the purpose; in cases, however, where the secretion is abundant, and particularly when it is of an unhealthy character, as in diphtheritic conjunctivitis, he decidedly prefers a solution of nitrate of silver—five to ten grains to one ounce of water. If there is great relaxation of the parts, with a large amount of mucous secretion, he makes use of a solution of one drachm of the sesquichloride of iron to the ounce of water. Great care must be taken that the eyelids are in their normal position underneath the compress, and the dressing must be applied with greater caution, if the cornea is in an ulcerated or sloughing condition. If the swelling of the eyelids and of the conjunctiva has almost entirely disappeared, the inflammation has subsided, and only a relaxed condition of the parts with an insignificant amount of mucous secretion remains, there is no further necessity for applying the dressing, and the cure may be completed by the application of slighly stimulating and astringent remedies in the form of fomentations and collyria. Granular conjunctivitis is never observed after this treatment. The bandage should not be left off at once, but removed gradually, and in a darkened room, so as to accustom the patient by degrees to a stronger light.

Professor Stellwag believes that the application of pressure, in combination with astringent remedies, might be used also with advantage in granular conjunctivitis of long standing.

VIII.—*On Amputation at the Hip-Joint.* By DR. JULES ROUX. (Gazette Hebdomadaire, May 4th and 11th, 1860.)

In our last issue we presented our readers with a short abstract of a paper by Dr. Roux, on secondary amputations after gunshot injuries of the bones; and in a recent communication to the Academy of Sciences he reported six cases of coxo-femoral disarticulation, performed in his wards at the St. Mandrier Hospital, at Toulon, upon the sailors and wounded soldiers of the Italian army. Two of these cases resulted in death, but both sailors had comminuted fractures of the upper third of the thigh-bone, with laceration of the femoral vein and extensive injury of the soft parts. The patients succumbed, one in five, the other in eight hours; thus adding confirmatory evidence against the success of primary amputation at the hip. In the four successful cases, the operation was secondary or consecutive, and the cure was complete on the seventy-first, sixty-sixth, fifty-eighth, and seventy-seventh days after the operation. All the patients, except the two fatal ones, were placed fully under the influence of chloroform, and the bleeding vessels, including the femoral and larger veins, required at least sixteen ligatures. The dressings consisted in the application of ten twisted sutures, with adhesive strips, and a piece of greased lint over the wound. A drainage tube or tent was retained in the parts for twenty-five or thirty days. Light but nourishing diet, Bordeaux wine, a decoction of quinine and aconite, with attention to the bowels and secretions, cleanliness and ventilation, constituted the after-treatment.

Dr. Roux also gives a statistical table of the cases of coxo-femoral disarticulation occurring in the French marine hospitals. It contains twelve cases, including his own, of which seven terminated fatally. Five of these operations were primary, or performed several hours or days after the accident, and all were unsuccessful; four were secondary or mediate, forty-two days to seven months intervening between the accident or disease and date of operation, and three were cured; three were ulterior or consecutive, the operation being performed one or several years after the receipt of the disease or injury, and only one resulted in death.

The author lays it down as a rule, that comminuted fracture of the thigh-bone, in any portion of its extent, rarely requires amputation; and insists, when the fracture is seated in the upper third of the bone, that amputation at the hip-joint should not be performed. In support of his opinion he gives a brief account of twenty-one cases received into the St. Mandrier Hospital after the Italian war, in which the superior third of the thigh-bone had been fractured by balls, and in all the fracture had become consolidated. Secondary coxo-femoral disarticulation was practiced successfully in one case, six months after the occurrence of the injury, and the remaining twenty were cured. Amputation should, therefore, as a rule, be confined to those cases where the two lower thirds of the bone are injured; and if after several months a cure is not effected, and amputation becomes necessary, whatever may be the portion of bone fractured, coxo-femoral amputation should be preferred, as in this way all the diseased bone is gotten rid of. The longer the operation is delayed, the greater is the chance of recovery.

IX.—*On the Treatment of Stricture of the Urethra.* By PROFESSOR SIGMUND, of Vienna. (Prager Vierteljahrschrift für die Praktische Heilkunde, xvii. Band 2, 1860.)

In cases of urethral stricture, Dr. Sigmund prefers the treatment by dilatation, and in his clinic has obtained most excellent results from the method "*aux bougies multiples,*" recently recommended by Amussat. The treatment is commenced by introducing a very slender, thread-like bougie, which is retained during the first twenty-four hours. On the following day, a second instrument is passed along the side of the first one; on the third day, another, and so on, until five or six bougies have been introduced. Having arrived at this point an ordinary larger bougie is made use of. This method, in Dr. Sigmund's opinion, possesses the advantage of giving the patient but slight pain, and of rendering the discharge of urine much easier, on account of the great flexibility of the bundle.

X.—*On Fracture of the Surgical Neck of the Scapula.* By JURIAH HARRISS, M.D., Professor of Physiology in the Savannah Medical College. (Savannah Journal of Medicine, July, 1860.)

Five cases of this rare accident have come under the observation of Dr. Harriss, and two within his own practice. Surgical writers are not agreed as to the possibility of the occurrence of such an injury, but the discrepancy among them evidently arises from a misunderstanding as to what portion of the bone is injured. The surgical neck, or that part of the scapula behind the coracoid process, and not the anatomical neck, is always the seat of the lesion, the fracture passing between the anterior root of the acromion process and the rim of the glenoid cavity.

The case reported by Dr. Harriss occurred in a negro boy, twelve years of age, who fell from a fence upon his left shoulder. The symptoms consisted in great prominence of the acromion, flattening and deformity of the shoulder, the distance from the inner margin of the axilla to the acromion process was increased, and the coracoid process and head of the humerus were more prominent than on the sound side. The patient could elevate the limb and move it from side to side, and was able to carry his hand to the opposite shoulder, the elbow being in contact with the side of the chest. Crepitation could readily be elicited, and by forcing the shoulder upward, outward, and backward, its rotundity was restored, but again became flattened on ceasing the force. The head of the humerus could not be felt in the axilla, a symptom which was also absent in two other cases seen by the author. There was no great pain nor swelling.

The treatment consisted in fixing the scapula, and keeping the arm pressed upward, backward, and outward, by appropriate apparatus. At the end of the seventh week the fracture was united.

XI.—*On a little known Variety of Syphilitic Aphonia.* By M. P. DIDAY. (Gazette Médicale de Lyon, and Gazette Hebdomadaire, No. 19, 1860.)

In this paper M. Diday describes what he terms as *secondary aphonia*, to distinguish it from the hoarseness present in laryngeal phthisis in subjects in the last stages of an inveterate syphilis. His conclusions are based upon twenty cases, of which the following is a summary:—

Between the third and sixth months from the appearance of the primary affection, the patient, without having been exposed to any exciting causes, or having symptoms of coryza, angina, or bronchitis, perceives that the voice has lost its ordinary sonorousness; an alteration which increases so rapidly that in a few days he cannot speak above a whisper. Apart from the change of volume, the other functions of the vocal organs remain perfect. Pronunciation is clear and distinct, the respiration is unaltered, and there is neither pain, cough, dyspnœa, nor fever. When this condition becomes once established, it will, in all probability, continue indefinitely, unless a proper course of treatment is instituted, for there is little or no tendency to a spontaneous cure. This disease is more common in syphilitic subjects than is generally supposed, and patients ascribe it to the ordinary causes of hoarseness. On account of the period of its appearance, the average being four months, this aphonia should be classed among the secondary affections; and it is sometimes accompanied by mucous tubercles of the tonsils.

In view of the absence of pain, malaise, and the great promptness of the cure, M. Diday is disposed to consider this secondary aphonia a nervous affection, due to paralysis of the muscles which endow the borders of the orifice of the glottis with their power of vibration. Under the influence of eight to ten centigrammes of the protiodide of mercury a day, the affection is changed in two days, and six or eight days later a cure is effected.

XII.—*On the Treatment of Staphyloma by Ligature, according to Borelli's Procedure.* By M. Ancellon. (Bull. de Thérapeutique, and British and Foreign Med.-Chir. Review, July, 1860.)

Our attention having been drawn to the ligature treatment of staphyloma, by the report of M. Ancellon, quoted in the British and Foreign Review, we were induced to refer to the volume of the Transactions of the Ophthalmological Congress, held at Brussels in 1857, and found a paper on the treatment of staphyloma, by Dr. Jean-Baptiste Borelli, of Turin. Although several years have elapsed since the publication of this memoir, we still think that a short abstract of this new treatment will prove acceptable to our readers, especially as attention has again been directed to the subject by M. Ancellon.

Dr. Borelli is convinced that the treatment of staphyloma by the ligature possesses the advantages of preserving the globe of the eye with little deformity, it permits the more easy adaptation of an artificial eye, and in certain cases the condition of the organ is such that a fair chance for sight is offered by the formation of an artificial pupil; moreover, a relapse, as after other procedures, is impossible. This operation is merely a modification of that of Celsus, and for its performance are required two long and fine pins—such as insect pins—a silk ligature, and a pair of forceps. An assistant elevates the upper lid, while the operator controls the lower, at the same time fixing the globe of the eye, as in the operation for cataract. He then traverses the base of the staphyloma with the pins in the form of an X, and carrying the ligature behind the pins strangulates the mass. The ends of the thread are confined to the cheek by means of a strip of adhesive plaster. The lids are protected by interposing between them and the pins pieces of greased lint; the orbital region is covered with a pledget of charpie covered with cerate, and over all a compress is placed, confined in its position by a roller or handkerchief. That this operation is not painful, is shown from the fifteen cases of Dr. Borelli, and from those occurring in the practice of MM. Ancellon and Guépin.

On removing the dressings on the third day, the pins, with the thread and strangulated staphyloma, are generally found detached from the eye. The dressings of greased lint are renewed every twenty-four hours, and on the eighth day the cicatrix will be found to be quite firm. By the twentieth day after the operation the patient can resume his usual occupation.

PATHOLOGY AND PRACTICE OF MEDICINE.

BY RICHARD J. DUNGLISON, M.D.,

PHYSICIAN TO THE BURD ORPHAN ASYLUM AND TO THE ALBION SOCIETY.

I.—*A fatal Case of Trichina Spiralis.* (London Medical Times and Gazette.)

A small species of entozoa occasionally exists in the muscles of voluntary motion, to which the name *trichina spiralis* has been given. The minute cysts which constitute the trichinæ are usually of an oblong shape, and in size and color have considerable resemblance to young pediculi. We here condense the history of their existence in a young girl, admitted into the wards of the Dresden Hospital, who had presented symptoms not unlike those of rheumatic affections, accompanied with many of the concomitants of typhoid fever; a very large number of these animalculæ were discovered, many arranged spirally in the structure of the muscle, while others were extended. They were found to exist also in all the striated or voluntary muscles, but the structure of the heart was free from them. When the intestines were examined, the trichinæ were discovered in vast numbers.

The previous history of the case showed that the patient had been living in a butcher's establishment, in which smoked ham and sausages had been prepared but a day or two before she was taken sick, from two pigs slaughtered there; and it was considered probable that the girl had eaten some of the food. On examining portions of the sausages and ham, trichinæ were visible in great numbers. The proprietor of the establishment was affected with symptoms similar to those of his maid-servant, but death did not supervene as in her case. One curious fact was revealed in this case in regard to the reproduction of these animalculæ. The female trichinæ contained in the central portions of their bodies large numbers of well-developed embryonic trichinæ, thus showing that these parasites are viviparous.

II.—*Paralysis of the Bronchial Muscles.* By James F. Duncan, M.D., etc. (Dublin Quarterly Journal of Medical Science, May, 1860, p. 499.)

So much attention has been paid, Dr. Duncan thinks, to spasmodic contraction of the muscular fibres connected with the air-passages, that the opposite condition of impaired contractile power has been too much disregarded. The minuteness of these muscles may have induced medical men to underrate their importance as aids in the proper performance of the function of respiration; and inasmuch as they are not voluntary in their nature, the loss of their contractile energy is not so readily appreciated. The elasticity of the structure of the lung would counteract any injurious effects that would certainly follow, should paralysis of these muscular fibres be attended by collapse of the air-passages. One great difficulty in the recognition of affections of the muscular portions of the respiratory apparatus is that, unlike other parts of the lung, morbid changes of the muscular structure "defy alike the scalpel of the anatomist and the lens of the microscopist."

Yet there exist strong reasons for believing, according to Dr. Duncan's views, that long-continued inflammatory action in the mucous membrane of the bronchi may impair or destroy the contractility of the muscular fibres which lie in close contact with the under surface of the inflamed bronchi. A case is detailed in illustration of this theory, in which he thinks the symptoms may be rationally considered as explicable according to the views above mentioned. Without entering into a minute history of the case, the peculiarity of the dyspnœa, from which she suffered greatly, may well claim attention here. Each act of respiration was to a certain extent voluntary, for the involuntary muscles were not able, without assistance, to maintain the requisite expansion of the chest. Great disproportion existed between the duration of inspiration and of expiration, the latter being fully three times as long as the former—a fact which was visible to the eye of an observer. This prolonged expiratory murmur was probably due, Dr. Duncan thinks, to impaired action of the muscular fibres, and he regards the extension of the effort of expiration as pathognomonic of paralysis of the muscular fibres of the bronchial tubes.

It is an interesting portion of the history of the case, which seems somewhat confirmatory of the view taken by its describer, that all treatment failed to give relief, until the extract of nux vomica, an agent which, he considers, "stimulated the muscular apparatus of the pulmonary system, and, by so doing, removed a mechanical impediment to the proper performance of the respiratory functions," was prescribed. Ten days after the commencement of this mode of treatment, she was sufficiently improved to be discharged from the hospital.

III.—*The Scrofulous Conformation or Diathesis; based principally on the Study of the Skeleton.* By Dr. T. G. HAKE. (Medical Times and Gazette, April 21, 1860.)

The peculiar conformation of body, or diathesis, considered distinct from the scrofulous disease, has only been described by modern writers, while scrofula itself is one of the oldest affections on record. It is the hereditary element on which scrofula, tuberculosis, and rickets are engrafted. The characters of the scrofulous type of conformation, says Dr. Hake, refer to the shape of the cranium, the jaws, the limbs, and to the symmetry and growth of the body in general. It has been found that while several of these and other characters are abnormal in relation to the European, or so-called Caucasian, they are distinctive of the inferior race; that all these characters are discoverable in the fœtus or the children; that, as a rule, the features of the scrofulous conformation, and of the inferior varieties of mankind, exist normally in the embryonic and infantile structures of the European or higher type of man. Twenty-two propositions are stated by the author as the conclusions at which he had arrived, all of which are fully illustrated by tables and reports. From these we select a few interesting facts and theories. Comparison of the cranium and long bones of an adult of the scrofulous type with those of the fœtus and child, displays their common characters. During the period of intra-uterine life, and afterwards, the cranium is large in proportion to the other parts of the skeleton; the frontal portion is low and narrow, etc. These characters gradually give way after birth to those of the Caucasian type, except in such children as inherit the scrofulous diathesis, in whom they persist throughout life. The crania of the fœtal series (Caucasian type) and those of the adult inferior varieties of man correspond, by admeasurement, in their relative diameters. The cranium of the adult Ethiopian and Mongolian finds its parallel constantly in the European fœtus.

So also we find the pelvis of the fœtus having characters which agree with those of rickety subjects in the same structure and with those of certain adult varieties of man. Thus, the pelvis is oblong, in a direction from the symphysis pubis to the sacrum, in the European fœtus, also in the male negro, the New Hollander, the male and female Buschisman, and the male Polynesian (Hunterian Collection.) In the fœtus of the dwarf, the female Buschisman, etc., the ilia are upright; in the adult European they are expanded and hollowed; and so on. Such coincidences occur also, according to Dr. Hake, in the predominance of the organic over the earthy constituents of bone, as characteristic of rickets and of the osseous system in the embryo; in the direction which the neck of the femur assumes to the shaft in each; the gradual transformation of the fœtal cranium from the Ethiopian type, which it assumes during the early weeks of embryonic life, to the Mongolian,—then, by degrees, to that of the Caucasian; the large size of the ends of the ribs, both in the fœtus and in rickety subjects, etc.

The prolonged infancy of our species has to be taken into account in explaining the blue eye of adults. An opportunity having occurred for examining the negro fœtus in relation to these points, the iris was found to be of a pale color, grayish blue; the hair was black; there was an Ethiopian cast of feature; the nose was depressed, the lips were thick, etc. The features themselves were scarcely distinguishable in shape from those of a European fœtus of from four to six months, and in their character and type were such as are daily observable in European adults who have the immature organization which is allied to scrofula or tuberculosis, whether those diseases be present or absent.

Dr. Webster, in reply to Dr. Hake, stated that throughout Spain, where a blue eye and light hair were scarcely ever seen, while the natives appeared unusually dark and Moorish-looking, strumous maladies existed to a great extent. Scrofula was very common also among dwarfs, and doubtless frequently made people dwarfs; but, excepting the Swedes, there was not a better formed or more gigantic race of men than the Spaniards, especially in Castile, and yet scrofula often existed. The author had evidently attributed to race results which arose from food and other causes; since it was found that in nations living chiefly upon vegetable diet, as in Spain, and no doubt also in Italy, where dark complexions also prevailed, scrofula was particularly prevalent, and that as they became an animal-food-eating people, scrofulous diseases proportionately diminished.

Dr. Hake seems to have considered the blue eye merely as a feature of immature development, while it should be borne in mind also that it was not scrofula as a disease which had been brought forward, but merely the conformation on which it was based or engrafted. Otherwise he could have shown how largely scrofula exists in many of the dark races, particularly in the Australian. Incompatibilities and discrepancies seem to exist, which might suggest doubts whether the physical development of animals would bear out the author's conclusions; but these may lead to a further consideration of the subject.

IV.—*Sudden Death, without any adequate Post-mortem Appearances.* By J. ZACHARIAH LAURENCE, F.R.C.S., etc. (British Medical Journal, May 19, 1860.)

In this case, a house-maid, no symptoms were observable before death except earache, unusual indolence and stupidity, and occasional faintness; death supervened suddenly, and post-mortem examination revealed no phenomena of sufficient consequence to account for the fatal result. Mr. Laurence states that all the usual phenomena observed in cases of sudden death were absent. In the *Annales d'Hygiène Publique* for 1838, M. Devergie published an interesting paper, "*De la Mort Subite*," in which one cause of sudden death is that by syncope, which he had found to occur three times in forty cases. It appears to be identical with the "idiopathic asphyxia" of Chevalier. In the three cases detailed by M. Devergie, the prominent appearances discovered on post-mortem examination were: 1, absence of all congestion of the organs; 2, the normal state of all the organs; 3, the existence of about an equal quantity of blood in the right and left cavities of the heart, regard being had to their respective sizes; 4, perhaps the coagulation of the blood in the fibrinous state.

In the present case, the stomach contained an undigested meal which the patient had partaken of stealthily, and therefore, probably, hastily; and a patch of injection existed in the coats of the organ. These conditions of the stomach may not unreasonably be connected with the syncopal affection, and the case may be regarded as one of a mixed nature, presenting signs of syncopal asphyxia, as well as of apoplexy. Yet the phenomena were totally inadequate to account for the suddenly fatal result.

V.—*Influence of Warm Climates on Phthisis.* By PROF. FORGET, of Strasburg. (Gazette Hebdomadaire de Médecine et de Chirurgie, June 8, 1860.)

The medical periodical from which we translate and condense the following speculations in regard to the influence of climate on pulmonary consumption, has had access to an unpublished work by Prof. Forget, entitled "*Principes de Thérapeutique Générale et Spéciale ; Nouveaux Eléments de l'Art de Guérir.*" The eminent author of this work refutes the idea advanced by a writer whose researches were crowned by the *Académie des Sciences*, that a residence in warm climates favored the production and development of phthisis, founding his view on the theory that debility is influential in the generation of tubercular consumption, and that warmth engenders debility.

The conclusions at which M. Forget arrived may be briefly summed up. It is not by the debility which they cause that warm climates are favorable to phthisis; it is, on the contrary, by the stimulation which the extreme heat exerts on the respiratory passages which are chronically affected. Warm climates are only unfavorable to consumptives from the excess of solar heat. But when this excess is counteracted by appropriate measures, a residence in a warm climate is attended with most happy results, a fact confirmed by the testimony of numbers of invalids who owe to emigration thither the prolongation of their life, and sometimes their cure. It is this which makes the neighborhood of the tropics more favorable than residence under the equator, and Madeira or Southern Africa than Bengal or Brazil.

If, in place of braving the extreme solar heat, the sick keep in the shade, in an apartment protected from the invasion of the exterior atmosphere; if they choose as hours for walking only the first and last hours of sunshine, they then receive all the benefits of the warm season without experiencing its inconvenience. M. Forget refers to the fact that observations have been made and statistics collected among the poor soldiers, and unfortunate marines, who were obliged to work actively under a vertical sun, and inferences been drawn erroneously from these facts as proofs of the pernicious influence of warm climates on those suffering from tuberculosis.

VI.—*On the use of the Ophthalmoscope as a help to Diagnosis in Diseases of the Nervous System.* By JOHN OGLE, M.D., etc. (Med. Times and Gazette, June 9, 1860.)

The valuable instrument, whose original object, when invented, was the diagnosis of certain affections of the eye, has received an extension of its usefulness to the examination of other diseases which are not primarily diseases of the eye itself. Dr. Ogle endeavors to make it subservient to the interests of diagnosis in certain diseases of the nervous system. He thinks that a deranged condition of the cerebral circulation may be mirrored forth by the ascertained condition of the vessels and inner coats of the eye in those cases in which this disorder is dependent upon disturbance of vaso-motor influence by reason of interference with distant parts of the sympathetic nervous system. Clinical cases, as well as the results of accidental injuries and experimental operations upon the sympathetic system, seem to show that giddiness, dimness of vision, deafness, and other such symptoms coincident often with intra-thoracic aneurism and other tumors about the neck, chest, etc., are in many cases quite independent of any true cerebral change, but merely result from interference with sympathetic nerve influence to the intra-cranial capillaries.

Appreciating the value of the ophthalmoscope in exposing to view the beautiful and minute vessels of the choroid and retina, and bearing in mind the probability of the condition of the ophthalmic vessels being, as it were, a *reflex* of those within the cranium, Dr. Ogle thinks it is possible to seek its aid in discovering unhealthy conditions of the deep vessels of the eye in diseases of the nervous system. He furnishes the details of four interesting cases, whose history may be briefly summed up as follows:—

CASE I. A man aged fifty-five; pupil of the *left* eye larger than that of the right; power of squeezing with the *left* hand much diminished; sensation of *left* arm and wrist less acute than on the opposite side; movement of *left* leg somewhat impaired; an old scar existed, along with a depression in the surface of the frontal bone over the left eye, due to a tumor, probably sebaceous, that had spontaneously broken. Had had a stroke while walking, and for a short time lost consciousness and sight, and for two or three days had no power whatever of moving the *left* arm and leg. *Examination by the ophthalmoscope* revealed in the *left* eye, at the lower and outer part of the crimson field illuminated by the reflector, a large dark mass of substance, doubtless extravasated blood.

CASE II. Trembling of the facial muscles of the *left* side; sight dim or double, with strabismus, and distinct arcus senilis of both eyes. Had previously suffered with jerking of the muscles of the *left* side, and twitching of the *left* shoulder. *Examination by the ophthalmoscope* exhibited the presence of a slight mass of black deposit, apparently upon the retina of the *left* eye. After atropia had been twice applied to dilate the pupil, objects seemed to the left eye very much diminished, "his own hand appearing to be only of the size of a doll's hand."

CASE III. Partial ptosis of the *right* upper eyelid, with divergent strabismus of the right eyeball, and very dilated and fixed condition of the pupil. Pain, giddiness, and double vision; objects seen with the *right* eye *much larger* than they really were. *Examination by the ophthalmoscope.* Right retina much paler than the left, and hyperæsthesia of the retina of the right side—not at all so of the left—when the light of the reflecting mirror was turned upon it. Dr. Ogle has found in a case described in connection with Case 3, that a dilated and perfectly fixed pupil can be made to act almost as completely as a healthy one by long-continued use of the light thrown upon the retina by the ophthalmoscope, and advances the hypothesis that by quickening or keeping up the reflex function involved in the action of the iris under the stimulus of light, it may answer the same purpose which galvanism does when used to maintain or resuscitate the function of muscles and motor nerves in paralyzed limbs. The theory is a plausible one.

CASE IV. A well-marked illustration of intra-thoracic aneurism, situated toward the *right* side of the chest. Pupil of the *right* eye larger than on the opposite side. On the supposition that the difference depended upon some interference with the sympathetic nerve, the ophthalmoscope was employed, and numbers of darkish spots and specks (apparently the *débris* of ecchymosed blood) were visible on the field of the retina.

Dr. Ogle concludes his interesting paper by suggesting that different conditions of the cerebral capillary system might be artificially produced in lower animals for the sake of contrasting different conditions of the vessels of the choroid and retina.

VII.—*Intermittent Phenomena, resembling Paralysis, limited to one Hand and Arm.* (American Medical Times, July 21, 1860.)

A case was admitted into the Northern Dispensary, New York, in which, at first, pain in the right hand and arm was the only symptom, soon accompanied also by a creeping and prickling sensation, as if the limb were asleep. But it was soon noticed that regular periodical phenomena supervened. For three weeks, the attacks recurred with the utmost regularity at twelve o'clock at night and four o'clock in the morning. Numbness, heat, pain, and anæsthesia of the arm came on at the first-mentioned hour, yielded to friction and warmth, and all the symptoms returned at four o'clock. She had been treated for paralysis, no case of intermittent fever having been known during the year in her neighborhood. The case was perfectly relieved by the administration of quinine.

VIII.—*Habits of Intoxication as causing a Type of Disease.* (Journal of Psychological Medicine, April, 1860.)

Intemperance and its consequences, the fruitful theme of moralists, is here discussed psychologically in its claims upon the attention of the practical physician. The writer complains that, while the immediate effects of alcoholic intoxication have been fully dwelt upon in all their mental, moral, and physical bearings upon the health and happiness of mankind, the remote morbific results of intemperance have not been so fully appreciated as to receive a legitimate position in systematic medicine. The forms of *alcoholism* which have been suggested by Dr. Léon Thomeuf in the Annales Médico-Psychologiques, 1859, p. 565, constitute perhaps as convenient a division of the subject as is practicable. He arranged them into acute, subacute, and chronic alcoholic intoxication; the first having a tendency to rapid evanescence, while the last gives rise to symptoms of insanity by determining certain structural or functional changes in the central nervous system.

The writer refers to the influence of alcoholism as a cause of insanity, as exhibited in the statistics of hospitals for the insane. Thus, of three hundred and fifty cases admitted into Charenton, in 1857 and 1858, one hundred and two were caused principally, if not solely, by the use of alcoholic drinks. After detailing the views of various authors on the nature, symptoms, and results of chronic alcoholism, and its deleterious agency in perverting the intellectual and moral faculties, the following curious and interesting, though scarcely infallible, deductions are made in regard to the influence of beer and spirits upon the mortality of the intemperate in Great Britain. The average duration of life, after the commencement of intemperate habits, is, according to one authority:*

Among beer drinkers	21·7 years.
“ spirit drinkers	16·7 “
“ those who drink spirits and beer indiscriminately	16·1 “

Consequently the rate of mortality will be—

Among beer drinkers	4·59 per cent. yearly.
“ spirit drinkers	5·99 “ “ “
“ mixed drinkers	6·19 “ “ “

In regard to the influence of *profession* upon alcoholism, several interesting conclusions respecting the duration of life after the commencement of intemperate habits are given. The average period, according to the same authority, is—

Among mechanics, working, and laboring men	18 years.
“ traders, dealers, and merchants	17 “
“ professional men and gentlemen	15 “
“ females	14 “

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* Neison on the “Rate of Mortality among Persons of Intemperate Habits.”

After discussing the treatment of chronic alcoholism, and especially the employment of the oxide of zinc as a valuable tonic, by Dr. Marcet in the Westminster Hospital, the writer suggests that "until the mental and physical phenomena of poisoning by alcohol receive an extension in the systematic teaching of medicine, and a position in our nosological arrangement in some degree pertinent to the amount of physical and moral mischief attributed to the potent liquid in ordinary life, we, the medical profession, shall probably not succeed in avoiding a habit of using phrases in reference to intoxication which to ourselves signify one thing, to the by-standers another; we shall not, therefore, succeed in convincing the public that intoxication or drunkenness the *mania*, and intoxication or drunkenness the *bad habit*, are two entirely different things—the one readily distinguishable, with care, from the other, and the one requiring the police magistrate, the other the doctor."

IX.—*On the Progressive Paralysis of the Insane.* By WILLIAM WOOD, M.D. (British and Foreign Medico-Chirurgical Review, July, 1860, p. 175.)

Dr. Wood refers first to the confusion caused by the employment of the term "paralysis," as applied to a condition in which many, "naturally expecting well-marked paralysis of sensation and motion, have overlooked the uncertain gait and tremulous articulation which to the experienced eye are as unmistakable as they are fatal symptoms of this disease." Written descriptions of the affection have often been imprecise and incomplete. It may be remarked that the term *general* paralysis is apt to mislead, from the idea that the whole body is simultaneously affected, but the truth is that this general involvement of the whole system does not really occur until the disease is near its termination, the different limbs and organs being progressively affected, and not at first simultaneously. It is from this progressiveness, if we may use the term, which is so markedly characteristic of the development and extension of the affection, that Dr. Wood proposes a change of nomenclature from General Paralysis to *Progressive Paralysis of the Insane.*

The various reasons for considering it properly a form of paralysis are detailed, as well as the main characteristics which distinguish it from ordinary examples of that affection. The condition which gives rise to the symptoms of progressive paralysis appear to be capable of arrest, although when the disease has gone on to its full establishment, there is little or no hope of averting a fatal issue. The ordinary medical attendant may often fail, when first called to a case of this nature, from his want of experience in this particular class of cases, to recognize the incipient stage of a malady which perhaps he has never seen; so that when the opinion of a special physician is taken, the disease has too often made fatal progress, and there is little or no hope of rendering effective aid. In looking back then at the history of the case; slight aberrations may be recalled, which, unless inquired into, would probably not have been particularly noticed, such as irritability of temper, irresolution of purpose, failure of memory, confusion of ideas, etc.

From facility of diversion to or from any particular cause which may be plausibly suggested, whether for good or evil, the progress toward delusions and perversions of judgment is easy and rapid, though occasionally sufficient intelligence may remain to raise a doubt in the individual's own mind, whether, after all, he may not be laboring under a delusion. But this does not continue long, and he soon finds himself unable to pursue to any length an argument or occupation of any kind. Failure of memory is one of the earliest symptoms of progressive paralysis, and when associated with alteration of manner and conduct, should be watched closely. One great difficulty in addition to the opposition of friends to the idea that insanity can possibly exist, is, according to Dr. Wood, the repugnance of the patient himself to treatment, which would seem to imply the existence of mental delusion, and so earnestly and plausibly will he oppose it, that it is difficult for the physician to persuade the family or friends that such a state of perversion has a real existence. Yet it is often this interference of friends that prevents him from being placed under circumstances which would be favorable to the arrest of the disease by affording him the benefits of professional assistance and advice.

Some of the symptoms of progressive paralysis, Dr. Wood thinks, are confounded with the incoherent condition which is known as simple mania, or they may exist without any maniacal symptoms, as a monomania, so to speak, with a generally tranquil and contented condition of mind. The course of general or progressive paralysis is not uniform, and therefore parts are not involved in the same order. The most reliable diagnostic symptom is imperfection of articulation, which is dependent upon various alterations of function in the lips, tongue, etc. The defect in ordinary stammering is dependent in most cases on the want of proper control and direction of the action of the muscles concerned in the production of speech. Proper attention may overcome this difficulty in stammering, but not so if connected with progressive paralysis, for in such cases there is muscular paralysis of the parts concerned in articulation.

Other characteristic symptoms are described, such as compression of the upper lip, quivering of the lower lip, difficulty in adjusting the oral opening, loss of muscular power in various parts of the body, increased inability to regulate the movements of the limbs, occasional convulsive attacks which differ in many respects from epileptic seizures, the attachment of undue importance and value to worthless objects, occasionally, perhaps, maniacal excitement, total abstinence from nourishment, etc. The mode of overcoming this latter difficulty, and the general treatment of those affected with progressive paralysis, are dwelt upon by Dr. Wood, but we have merely wished to give a synopsis of his views and observations on the symptomatology of the affection. It is a disease of much more frequent occurrence in the male sex than the female, may be confounded often with dementia, and is not characterized by any pathological changes which are not also found in connection with totally different symptoms. The support of the vital powers by stimulants seems to be the main indication, and morphia as well as various modes of counter-irritation may also be occasionally necessary.

Dr. Wood concludes his interesting and valuable paper by remarking: "It is unsatisfactory to reflect how little I am able to add to what is already known of this terrible malady, under which human nature appears in its most humiliating aspects, but I shall hope to have put in a somewhat clearer light than it has yet appeared to some of my readers the characteristic features of the disease, and trust that advancing science will enable us to take a more correct view of its nature, and to deal with it more successfully than we have hitherto done."

OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN.

BY WM. B. ATKINSON, M.D.,

LECTURER ON OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN.

I.—1. *Statistics of Midwifery.* By H. W. BAILEY, F.R.C.S., London.

The births amounted to 6476; 3290 males, 3186 females. Twins, 53; still-born, 21; triplets, 1; head presentations, 6120; arm presentations, 44; funis, 21. Of these, still-born, 2; breech, 45; face, 40; feet, 180; placenta prævia, 17; fatal hemorrhage, 2; sudden death after labor, no apparent cause, 2; embryotomy, 2; instrumental aid, 113. Deaths of mothers, in all, 13.—(*Obstet. Soc. Lond.*, *Lancet*, Dec. 17, 1859.)

2. *Ibid.* By WM. INGALLS, M.D., Middlesex, Mass.

Cases, 734; births, 746; twins, 12; males, 414; females, 332; abnormal presentations, 39; breech, 10; footling, 5; face to pubes, 14; forehead, 2; occiput posterior, 5; cord and arm, 2; still-born, 6.—(*Boston Med. and Surg. Jour.*, June 7, 1860.)

3. *Ibid.* By A. B. GRANVILLE, M.D., F.R.S., London.

Cases, 12,000; births, 12,478; boys, 6615; girls, 5863; still-born, 413; triplets, 4; instrumental labors, 20.—(*Lancet*, July, 1860.)

4. *Ibid.* By B. L. DODD, M.D., Newark, N. J.

Cases, 100; births, 102; face presentation, 1; breech, 4; average length of cord 26 + inches; still-born, 7; puerperal convulsions, 2.—(*Med. and Surg. Reporter*, July 7, 1860.)

II.—*Management of the Placenta.* By W. NEWMAN, M.D.

After the expulsion of the child, and the division of the cord, the patient still in the usual position, the left hand should be passed over the abdomen to ascertain the condition of the uterus. If contracted, and the placenta extruded from the cavity, it only remains to extract it with the right hand from the vagina. If, however, the uterus be flaccid, and increasing in size, commence and keep up pressure upon that organ until the progressive shrinking of its bulk induces the expulsion of the contained coagula, and the close compression of the placental mass. Then wait some five or ten minutes. After this time, grasp the uterus, and by external pressure cause it to drive the placenta into the vagina, whence it may be withdrawn by seizing an edge with the fingers. Do not trust to the umbilical cord.

The advantages thus secured are the certainty as to the actual state of the uterus; the control obtained over the quantity of blood poured out during the process of detachment of the placenta; the ultimate attainment of complete contraction; the almost complete emptying of the uterine cavity from coagula, etc.; the much increased certainty that concealed or post-partum hemorrhage will not occur; the absence of hour-glass contraction, or undue detention of the placenta.—(*Brit. Med. Jour.*, May 12, 1860.)

III.—*Fœtus carried Twenty-two Months beyond Term.* By JAMES M. BUZZELL, M.D., Springfield, Mass.

The patient, aged forty-two, had had several children and miscarriages. In November, 1857, from quickening and other usual signs, she believed herself pregnant. In April, 1858, she was supposed to be in labor; her breasts were so full of milk as to require to be drawn; the pains, however, were not constant or of much force, and soon subsided, although at intervals for two months afterwards, she had pains in her sides. She had menstruated, as was usual with her, two or three times during pregnancy, and afterwards the catamenia appeared at irregular intervals up to the time of her death. After the time of expected confinement, the abdomen gradually lessened in size for six months, when the *tumor*, as it was now supposed to be, was as large as a full-grown fœtus.

In October last she fell down stairs, receiving a severe shock, and afterwards suffering pain and tenderness of the abdomen, with cough and occasional nausea and vomiting. On examination, the os and cervix uteri were entirely closed, the womb forming a solid tumor. On the 19th of February, 1860, she died.

The autopsy revealed extensive adhesion between the fundus uteri and small intestines, and between its side and the sigmoid flexure of the colon. The uterus contained a fœtus in the natural position for delivery, but no trace of a placenta could be found. There was about a pint of thick, yellow fluid in the uterine cavity. An opening in the left side of the womb communicated with the interior of the colon, and the left hand and forearm of the fœtus were passed into the vessel as far as the elbow. Feculent matter had passed into the cavity of the womb.—(*Boston Med. and Surg. Jour.*, June 14, 1860.)

IV.—*Can a Woman remain ignorant of her Pregnancy up to the time of her Delivery?* By R. SCOTT ORR, M.D., Glasgow.

In the year 1852, I attended a young married woman, aged nineteen, and delivered her of her first child, under the following circumstances: She was supposed to be laboring under inflammation of the bowels. I found no fever, etc.; but, soon after my arrival, she had a violent labor-pain, speedily repeated. Fears having been expressed that she was about to miscarry, her mother assured me that her daughter was not pregnant, having never had any symptom, or felt any motion of a child. An opiate was given to prevent the miscarriage, but the labor went steadily on, and she was soon delivered of a very small infant, apparently still-born; but, by the use of the hot and cold bath alternately, it was resuscitated, and is now living, a fine, healthy boy, eight years old. It could not have been more than six months and a half in utero. The mother assured me she had never had the most remote idea she was pregnant, and the enlargement of the abdomen, which was not very great, she had not paid any regard to. Having been very delicate prior to marriage, her catamenia had been extremely irregular, so that no exact date could be obtained as to the duration of gestation. The patient was in every respect trustworthy, and there was no possible reason for concealment, but, on the contrary, felt proud of her offspring. This case, then, I think, proves that a woman *can* remain in ignorance of her pregnancy up to the *very* time of her delivery.—(*Lancet*, June 30, 1860.)

V.—*Puerperal Convulsions from Albuminuria, successfully treated with Chloroform.* By CHAS. A. LEE, M.D.

Mrs. T., aged twenty-one, in labor with her first child. Face pale, and with the feet and ankles much swollen. Otherwise apparently healthy, though more or less troubled with headache. Urine loaded with albumen. Fearing convulsions, chloroform was used moderately for three hours prior to delivery, which took place while she was in an unconscious state. In labor eight hours. At intervals, there were twitchings and contractions of the hands, turning up of the eyes, etc. She seemed to be doing well, and being left for an hour and a half, two violent convulsions came on, followed at intervals of an hour by ten more.

The usual means having been employed, choloroform was again resorted to. The patient at first retained her consciousness between the attacks, but finally became perfectly comatose and could not be roused, the convulsions being of an epileptiform character. After commencing the chloroform, but one paroxysm occurred, and that was during the intermission of the anæsthetic. As soon as any of the symptoms appeared, the chloroform was applied, and a few inspirations removed them, and caused entire relaxation. The vital functions were all carried on with regularity. About forty-eight hours after delivery, all threatening symptoms had disappeared, and the urine, on examination, was found to be free from albumen. The patient remained wholly unconscious all this time, and perhaps as long after. The pulse ranged from 150 to 180, sometimes being too feeble to be counted, but gradually came down to 120. Support was given by essence of beef, carb. ammonia, brandy, etc. Twenty-two days from her confinement, she was doing well, sitting up, nursing her infant.—(*Amer. Jour. Med. Sci.*, July, 1860.)

VI.—*Observations on the Treatment of Puerperal Eclampsia.* By DR. PIRRIE, Belfast.

There is more or less cerebral congestion in these cases, which may be followed in rare cases by effusion, but this is not the *primary* disease. It is a direct consequence of the spasmodic action of muscles of respiration interrupting the oxygenation and due circulation of the blood. He believes true puerperal eclampsia is caused by albuminuria. A condition very analogous, if not identical with anæmia, is produced by the kidneys permitting the exudation of serum, while they retain excrementitious matters, which should have been eliminated, causing the contaminated blood to circulate with difficulty, giving rise to œdema.

Simpson, who was one of the first to demonstrate the intimate connection between albuminuria and puerperal eclampsia, though hesitating to place them in the relation of cause and effect, yet describes them as, perhaps, simultaneous or successive effects of one cause, viz., a pathological state of the blood, to the occurrence of which pregnancy peculiarly disposes the patient.

Dr. P. is more inclined to refer it to congestion of the kidneys, caused by a direct pressure of the gravid uterus. In support of this view, we have the vast preponderance of such attacks in primiparæ, and the rapidity with which the albumen disappears from the urine after delivery. Sir Charles Locock, in the article "Convulsions," in the *Cyclopedia of Practical Medicine*, in assigning mental emotions as excitants of these paroxysms, says: "It has been long remarked, that unmarried women are more liable to be sufferers from convulsions, from the shame and distress under which their children are usually born." When we bear in mind the efforts made by such women to conceal their condition, we may readily conclude that direct physical pressure has more influence in the production of the convulsions in these cases than mental emotions.

The treatment is to relieve the pressure, not on the brain, but on the renal vessels; eliminate noxious matters from the blood; and stimulate the kidneys to a healthy secretion. These rules are applicable, whether the convulsions appear during pregnancy or labor, or after delivery. Thus, we may act freely on the stomach and bowels, reducing the contents of the abdomen, and eliminating noxious matters from the circulation; we may restore healthy urinary secretion by the administration of benzoic and tartaric, or other vegetable acids, as recommended by Braun and Frerichs. Finally, when danger is imminent, evacuate the uterus.

Chloroform and ether are useful adjuvants. In this connection, we must remember the highly important fact discovered by Kussmaul and Tenner, in their experiments, that in animals subjected to etherization, convulsions could not be induced.

While opposed to venesection as a prophylactic and curative agent, as he firmly believes its tendency is to increase the severity of the attack, to debilitate the patient, and delay the recovery, yet he thinks local bleeding, leeches to the temples, or cups to the nape of the neck may be beneficial by moderating the secondary congestion. In lieu of the warm bath, which is very difficult in the majority of cases to employ, he prefers sponging the surface with warm vinegar and water. To recapitulate:—

Convulsions are *not* caused by plethora or congestion of the brain, but by anæmia or defective nutrition.

Depletion aggravates the tendency to convulsions.

All cases of true puerperal eclampsia are associated with and caused by albuminuria, which is most probably caused by renal congestion, the effect of direct pressure.

The indications for the rational treatment are:—

To relieve pressure, the cause of renal congestion.

Eliminate noxious matters from the circulation, and to stimulate the kidneys to healthy secretion.—(*Dublin Quarterly Journal*, May, 1860.)

VII.—*On Ovarian Gestation* By PROF. ARTHUR WILLIGK.

Should the views of Prof. Willigk be confirmed, the current opinions concerning ovarian gestation must undergo considerable change. He agrees with M. Mayer, in doubting the existence of this form of gestation. Prof. Willigk notices a recent case of alleged ovarian gestation, published by M. Alquie, in which he found "ten embryo sacs, with fat, hair, skin, cartilages, and bones," from which he concludes that there was a tenfold impregnation. The improbability of ten ova at once is urged against the admission of this case. In others, he urges that the microscopic examination has been omitted, leaving it a matter of doubt as to the correct description of the matters found. In examining a preparation in the Olmutz Museum, labeled ovarian gestation, he found in the right ovary a cavity the size of a hen's egg, to the lining of which a body was attached by a pedicle supposed to be a fœtus of seven weeks. This proved, under the microscope, to be nothing but connective tissue of the cyst wall, and the fœtus, a solid mass of the same. Another case proved a similar deception.

The professor demands, as a condition for admitting a case as one of ovarian gestation, that the fœtus itself, or undoubted remains of it, shall be found within the fibrous capsule of the ovary; and says no case has yet guaranteed the existence of this variety of extra-uterine gestation. He analyzes several other cases, and disposes of one by Kiwisch, by comparing it to a case in the museum, examined and figured by himself. The right Fallopian tube is closed at its free end, and bears traces of adhesion; the right ovary has a scarred surface, and contains several Graafian follicles and corpora lutea; the two leaves of the broad ligament of the left side inclose a round sac, the anterior wall of which shows a wide irregular rent. This sac contains, besides clots, an embryo partly surrounded by the amnion; the internal surface is nearly covered with fine chorion villi, which at one spot are developed into a placenta. When the posterior fold is traced back, its direct course over the left ovary is seen. This ovary is inseparably united with the abnormal embryo sac, its surface being marked here and there with threads of connective tissue. This case is one of gestation between the folds of the broad ligaments, and he suggests that the one related by Kiwisch is of the same kind.—(*Vierteljahrsch. f. d. Prakt. Heilkunde*, 1859; *Brit. and For. Med.-Chirurg. Rev.*, April, 1860.)

VIII.—*Retained Menses from Imperforate Os Uteri; Operation; Death.*

By I. BAKER BROWN, F.R.C.S.

S. L., aged sixteen, had never menstruated. Every month she suffered great pain in the abdomen and back, lasting for a period varying from a few hours to three days, accompanied by all the usual symptoms of menstruation, without any external appearance.

The vagina terminated in a cul-de-sac; the neck of the uterus could be felt in its normal position, but no os was distinguishable. The lips of the os could be obscurely made out as if covered with the lining membrane of the vagina. Per rectum, the uterus could be felt increased in size, with a sense of fluctuation.

It being evident that the case was one of retained menses from congenital closure of the os, it was decided to operate.

Chloroform having been administered, she was placed in the lithotomy position, a pair of sharp-pointed straight scissors were passed along the finger up to the point of obstruction, and gently pressed through it, without opening them; it required very little force to penetrate the membrane. On withdrawing them, a quantity of thick fluid, of the consistence of treacle, but of the color of red-currant jelly, immediately flowed out. By gentle pressure on the abdomen and per rectum, several ounces were discharged. The vagina was syringed out with warm water, a napkin and binder applied, and after she had recovered from the chloroform, one grain of opium was given her, and repeated every six hours. There was not the least hemorrhage. She passed a good night, the discharge having assumed the appearance of natural menstruation. In the evening there was slight sickness, with tenderness of the epigastrium, and hot poultices over the abdomen were ordered, and she took Dover's powder and effervescents. By the next night, a frequent vomiting of dark bile came on, with severe pain at the epigastrium; the bowels not having acted. In spite of all remedies employed, these symptoms continued, and she died on the third day after the operation.

Autopsy.—There was no appearance of general peritonitis, but in that portion of the intestines in contact with the uterus, there was evidence of local inflammation, plastic lymph having been thrown out. Every other portion normal.

Cases of this kind are rare, and it is therefore of importance that it should be recorded, as ignorance on this point is apt to do mischief, both to our profession and the public. The feelings of the relations may be severely tried, and the reputation of the surgeon seriously periled, by an expression of opinion as to the non-advisability of surgical interference. The slightest consideration renders it evident that there is no choice but between continually increasing suffering, leading to ultimate death, and the effort to restore the natural channel by surgical means.—(*Lancet*, July, 1860.)

IX.—*Treatment of Vaginitis by the Glycerole of Tannin.*

By M. DÉMARQUAY.

L'Abeille Medicale gives the following abstracts from a long memoir on glycerin and its applications to surgery and medicine.

"Every one is aware that vaginitis is a stubborn complaint, and extremely difficult to bring under treatment; we, however, believe that we have established a plan by which this disease can be controlled, and whose efficacy is such that during the four years in which we have employed it, we had but one refractory case. This method consists in the application of pledgets of lint steeped in glycerin, treated according to this formula:—

Glycerin, 3 parts.
Tannin, 1–2 parts.

"The tannin is entirely dissolved by the glycerin, and the result is a substance of a beautiful brown color, inclining to yellow, transparent, of a semi-liquid consistence, very readily imbibed by layers of charpie or of cotton, and, after application, not draining out from them, even when held in the vertical position." The application is made thus: the speculum having been introduced, water is freely injected, to remove all the mucus and pus which is spread over the vaginal walls, which are then dried by means of a pledget of lint attached to a long stick. One or more tampons of wadding, well steeped in the tannated glycerin, are then introduced, followed by a dry tampon to retain any drops which may escape from the first. The speculum is withdrawn, and the patient left quiet till the next morning, when all are removed, and again renewed. Four or five such applications complete the cure. As a precautionary measure, for a week longer the patient should make injections two or three times daily of a decoction of walnut leaves, with the addition of sixty grains of alum to the pound. When, in consequence of acute inflammation not permitting the introduction of the speculum, this application cannot be immediately made, the treatment should be commenced by an appropriate diet, baths, and soothing injections.

These tampons are neither painful, nor do they incommode the patient, who can remain in the upright position part of each day. The local effect is coagulation to a certain extent of the mucus-pus which is secreted; change of color in the mucous membrane of the vagina which loses its inflammatory redness; dryness of the walls and tightening of the tissues; disappearance of pain and issue. Other physicians have employed it with like effect. M. Aran has tried simple glycerin in the form of injections into the womb and vagina, for ulcerations of the neck of the uterus, and uterine catarrh. The injections into the womb had to be discontinued, on account of the pain which they produced. It is possible that this was due to impurity of the glycerin.

We have tried this application, but with no encouraging results.—(*Nashville Jour. of Med. and Surg.*, June, 1860.)

X.—*Fibrous Tumors of the Uterus.*

1. *Observations on Fibrous Tumors of the Uterus.* By M. DÉMARQUAY.

This form of disease is frequent, and presents certain points of interest to the observer—such as their development, symptoms, etc. It is not rare to see a case where the health is not at all affected by the presence of such a tumor; while in other cases very grave symptoms are present, demanding the intervention of the surgeon. But this aid is not always either easy, or even possible, to render. When the os uteri is dilated, or the tumor in the vagina, with a well-formed pedicle, in fact, a true polypus, there are several methods by which to relieve the patient. But when the tumor is contained in the walls of the uterus, the operation is very difficult, if possible; and, moreover, there are often found very frequent and abundant hemorrhages, exhausting and fatiguing by the almost constant uterine contraction and the expulsive pains analogous to those of labor. There is yet a very grave symptom to be considered, the persistent vomiting, which occurs along with the contractions in many cases.

Amussat has occupied much time with this subject, and has published accounts of his operations for the removal of these interstitial tumors. It has also been performed by Blondin, Mourd, Huguier, and other physicians.

The great danger of this operation is, that it cannot always be completed, in which case the life of the female is almost sure to be lost. One of the best surgeons of Paris attempted its performance, was unable to complete it, and the patient died in a few hours.

The early hemorrhage inseparable from these operations may also cause much danger and even death, more especially, when the surgeon is obliged to incise the neck of the uterus to open a passage by which more easily to get at the interstitial tumor; but supposing that the operator may be able to escape all the primary dangers attending it, such as hemorrhage, syncope, peritonitis, still accidents may yet intervene and compromise the life of the patient at a time more or less distant, as may be seen by the following observations of M. Démarquay.

He has four times performed the operation. It is possible to remove the tumor when it does not project into the abdominal cavity, the urgent indication being very precise, but it is not so important in surgery to be able to perform an operation, as to know the results to the females upon whom a like operation has been performed. This is a question for which he is unable to find a solution in the accounts of other operators; they generally record the primary results, but further it is impossible to know. He will demonstrate that his patients who have borne the operation well, have died at a time more or less distant, of the sequelæ.

The first case, aged fifty years, was strong and well formed, but for several years having lost much by the uterus, and suffered greatly in the pelvic region, had become very anæmic; a tumor, twice the size of the fist, was formed in the posterior wall of the uterus.

In operating, the uterus was caught by the forceps and slightly depressed. The neck being dilated, an incision was made on the fibrous body, the membrane of the uterus isolated, and, with the forceps, an attempt was made to draw out the tumor, which failed. Nevertheless it was extracted as by a wire-drawing process.

The operation was tedious, and the patient lost much blood. At first, no bad results ensued, but in a few days she was attacked with metritis, complicated with diarrhœa, and in six weeks she died from these causes.

The second patient, aged forty-five, of a nervous temperament, had become anæmic from the pains and sanguineous discharges. The tumor here was as large as the head of an infant, and in the posterior wall. Her pains were intolerable, with an attempt, as it were by the uterus, to force out the fibrous body. Along with these she had persistent vomitings.

An incision was made on each side, from the neck of the uterus, to enlarge the opening. A similar proceeding was resorted to as in the former case, and no dangerous consequences ensued. No means, however, could check the vomitings, of which she died two months after. The operation had been performed at too late a period.

The third case, aged forty, was analogous to the above. The operation was performed, inflammation followed about the tenth day, which, after much trouble, was subdued; the patient, however, remained in a weak state, and died in twenty months.

The sequelæ of this operation are generally fatal. It is performed when the patient is in an unfavorable condition, and as a last resource. In one case, a lady applied to be delivered of an enormous tumor, which, from the attending circumstances, was refused. Three years after, the discharge and pain had much diminished, she had recovered her vigor and *embonpoint*, and, what is more curious, the tumor had notably diminished. All this was due to the influence of repose, of diet, of the air of the country and the sea.—(*Journal du Progrès*, June, 1860.)

2. *Spontaneous Expulsion of a Fibrous Tumor of the Uterus after Delivery.*

By JOSEPH GRIFFITHS SWAYNE, M.D.

A lady, aged thirty-seven, in good health, miscarried at eight months. Six weeks after she suffered with pain and swelling in the left iliac region; at the end of ten days she lost a great deal of blood per vaginam. All these symptoms varied much for some time, being aggravated at each menstrual period. She again became pregnant some two years subsequently, and was delivered of a fine male infant, after a very tedious labor, by the forceps. For a few days all went well, but she was then attacked with fever, and dull, aching pain and tenderness above the left ilium. On examination, the fundus uteri was found to reach nearly as high as the umbilicus; the uterus itself was large and hard, and it was believed that subacute inflammation and softening was going on in the uterine tumor. Dover's powder and fomentations were employed. In the course of a few days, she commenced to pass, per vaginam, pieces of a fleshy substance, which consisted of concentric layers of unstriped fibre, resembling those of the uterus. These continued, along with a sanguineous discharge like the lochia. To promote the expulsion, ergot was given along with the opium and tonics. The uterus gradually diminished in bulk and subsided until, in ten days, it could not be felt above the pubes.

On collecting all the pieces discharged, they formed a mass about the size of a man's fist, and weighed over half a pound. The discharge gradually ceased, and by the end of a month the patient was quite well.

In this case, before pregnancy, the tumor caused pain and hemorrhage at each menstrual period, yet it is surprising how little the process of gestation was interfered with. The tumor, no doubt, was imbedded in the walls and between the fibres of the womb. In all probability, it was much nearer the mucous than the serous surface; thus it was that during the degeneration and absorption of the uterine fibres after delivery, its connection with the uterus, and consequently its vitality, which gave rise to inflammation and ulceration of the uterine fibres between it and the mucous surface, until a sufficient opening having been made, it was cast off piecemeal into the cavity, and thus the natural processes, in this instance, instead of being destructive, as they usually are, were curative, and were attended with the happiest results.—(*Brit. Med. Jour.*, May 12, 1860.)

3. *Seven Cases of Uterine Polyps, with some Remarks upon the Treatment.*

By MIDDLETON GOLDSMITH, M.D., Louisville, Ky.

CASE I.—The patient, aged twenty-five, the mother of two children, had suffered one miscarriage. Prior to this she had frequent hemorrhages. A fetid discharge from the vagina had existed for several days, and upon examination, a large polyp was found projecting into the vagina. It was much decomposed, and readily broke down under the pressure of the fingers. She was directed to wash the vagina frequently with water by means of a syringe, under which treatment she recovered quickly and has since borne children. Here it was obvious that the pedicle had been strangulated by the os uteri.

CASE II.—Mrs. W., aged forty, had had several children; subsequently, three miscarriages. Having suffered much from hemorrhage and expulsive pains, an examination revealed an open os with a polyp just within. Ergot was given, and by the next day caused the descent of the tumor, which was then removed by ligation. Recovery complete.

CASE III.—Mrs. ——, aged thirty-five, had borne several children and had several miscarriages; was pale and anæmic from repeated exhausting hemorrhages at irregular intervals. A polyp was diagnosed and ergot given, resulting in her delivery of a large fibrinous polyp by the end of the second day. Recovery complete.

CASE IV.—Mrs. ——, aged thirty, with similar symptoms. The polyp was seized with the forceps and partly torn and crushed. The fetid discharge gradually ceased, but there was no more hemorrhage.

CASE V.—Mrs. ——, aged forty-one; several children, two miscarriages. Since the last miscarriage, the hemorrhage has been so great as to almost destroy her. A small polyp was found and torn off by means of a finger introduced within the os. Recovery slow.

CASE VI.—Miss ——, polyp protruding from the vulva, bi-lobed in appearance, and as large as two turkey-eggs, joined at their sides; the pedicle, about the thickness of the wrist, could be traced a finger's length into the vagina. This she had the power of expelling and withdrawing at will. Ergot was given; and the tumor thus forced down was ligated. In a short time the mass came away, and a perfect recovery followed.

CASE VII.—Ellen, aged twenty-nine; frequent hemorrhage for last two years. Drachm-doses of tincture of ergot were given every three hours, for sixty hours. This caused the tumor to protrude, which was seized and cut off by means of the écraseur. There was no hemorrhage, and she made a good recovery.

At present, surgeons are divided in opinion between excision and the ligature. The danger of the first is hemorrhage; of the second, putrefaction. Another objection to the former is the liability of other parts to be wounded. We must not lose sight of the difference in structure and vascularity between continuous and discontinuous polyps. The first, especially when malignant, produce copious hemorrhage. But the great majority of these tumors are discontinuous and benign. Velpeau favors excision, and, with many others, agrees that but few of these uterine tumors, say one in every hundred, give rise to serious bleeding when excised. He advises that the patient should be placed as for lithotomy, the tumor grasped with long forceps, dragged down, and the pedicle divided with the knife or scissors. If there is no pedicle, divide the tumor a little above its greatest diameter. When it is too large to pass the vulva, it may be sliced away. If within the womb, dilate the os with sponge-tents and give ergot. A pledget of lint, wetted in the tincture of benzoin, placed on the cut surface, and a tampon in the vagina, will check the hemorrhage.—(*Louisville Med. Jour.*, April, 1860.)

XI.—*Description of a Simple Instrument for Inflating the Lungs of Infants Born in an Asphyxiated State.* By DR. WILSON, Glasgow.

This consists of a vulcanized india-rubber ball, about the size of an orange, to which is attached a German-silver tube six inches long, and slightly curved at its free extremity; the tube is closed at the extreme end, but has two eyes, like a catheter, a short distance from the point. The tube is introduced into the larynx, the ball compressed, forcing the contained air through the tube into the lungs. Another hole, much larger, is made in the tube close to its attachment to the ball, through which fresh air is obtained, the thumb covering this, when the ball is compressed, and removed when it dilates.—(*Amer. Med. Times*, July 14, 1860.)

XII.—*Croup and its Treatment with Antiperiodic Doses of Quinine.*

By HENRY F. CAMPBELL, M.D., Georgia.

Dr. C. is fully persuaded that croup, as it occurs in the Southern country, has an important relation to malarial fever. At first, it is generally a *neurosis*, manifesting itself in paroxysms, by a series of symptoms, either of a spasmodic or inflammatory character. In cases where spasmodic croup becomes transformed into the membranous variety, the process is interrupted by *remissions*, and even decided intermissions. "It is our object to urge what we consider almost a specific treatment, which is particularly applicable in the early part of the disease, but by no means unimportant even later. We refer to the administration of quinia in efficient doses during the intermissions and remissions characterizing the initial stages of the disease."

The treatment may be divided into that appropriate during the attack, and that during the intermission.

For the first, we require emetics, as ipecac., lobelia; cloths wrung out of cold water; and when these have relieved the paroxysm somewhat, there remaining a hoarseness, and tendency to a return, with great dryness in the laryngeal respiration, turpentine is of great value, given in small and frequently repeated doses.

During the intervals give quinia; keep the patient fully under its influence for two days. This plan will meet both the quotidian and tertian type.—(*Southern Med. and Surg. Jour.*, May, 1860.)

XIII.—*On the Ophthalmia of New-Born Infants.* By DR. FORTOUL, Dijon.

Artificial lactation favors the production of this affection. Two-thirds of Dr. Fortoul's patients died, generally from intestinal pulmonary inflammation, frequently complicated with muguet. One in twenty had consecutive lesions of the ocular membranes, none of whom recovered. Ophthalmia was generally noticed for the first time on the fifth or sixth day after birth. There was frequently a disposition to sclerema and cerebral inflammations. Those comparatively rare cases, from direct contact of syphilitic and gonorrhœal matter, were extremely severe, while the others were of less local danger, but exhibited a great disposition to other affections of the system.

Treatment.—Great stress is laid on diet and temperature; avoid local bleeding and purgatives; cleanse the diseased eye by pouring water into it from a sponge; apply nitrate of silver 1 part to 40 of water; seldom use a strong solution, and rarely the solid stick. In syphilitic cases, he uses mercury locally, being fearful of its internal use, from its irritant effect on the intestinal mucous membrane.—(*Amer. Med. Times*, July 14, 1860.)

PHYSIOLOGY.

BY S. WEIR MITCHELL, M.D.,

LECTURER ON PHYSIOLOGY IN THE PHILA. MED. ASSOCIATION.

Anatomy and Physiology; the Reproduction of Bone.

During the last two years, a series of interesting experiments has been carried on by M. Leopold Ollier on the function of the periosteum as a producer and regenerator of osseous tissue. The subject is of some importance in a surgical as well as in a physiological point of view; and we propose to give a full abstract of M. Ollier's papers, combining with them such other notices as we have been able to find in the journals. The following are the sources from which we derive our information, the principal being the essays of M. Ollier, in *Journal de la Physiologie.*

1. *Berruti, M.* Experiments on the Transplantation of Periosteum, Giornale delle Scienze Mediche della Reale Academia de Torino, and Gazette Hebdomadaire, July 1, 1859.
2. *Flourens, M.* On the Dura Mater or Internal Periosteum of the Skull, Gaz. Méd. de Paris, August 20, 1859; on the Osteoplastic Properties of the Dura Mater, and on Cerebral Osteophytes, Gaz. Hebdom., September 9.
3. *Larghi, Dr.* Contributions to the History of Subperiosteal and Subcapsular Operations, Gaz. Méd. de Paris, January 29, February 19, May 21, July 23 and 30, August 27, and Dec. 10, 1859.
4. *Ollier, M. Leopold.* Experimental Researches on the artificial Production of Bone by Transplantation of Periosteum, and on the Regeneration of Bone after complete Resection and Removal, Journal de la Physiologie, January and April, 1859; Experimental Researches on the Grafting of Bone, *ibid.*, January, 1860; the same subjects, Gaz. Méd. de Paris, April 2 and 9, 1859; Experiments on the Transplantation of the Dura Mater, showing that this membrane may be regarded as the internal periosteum of the skull, *ibid.*, September 10, 1859, and Gaz. Hebdom., August 12; Case of Subperiosteal Resection of the Elbow-joint followed by Reproduction of the Bone, *ibid*, December 3, 1859, and Gaz. Hebdom., December 2; on the Reality of the Reproduction of Bone after Subperiosteal Resection, Gaz. Méd. de Paris, January 28, 1860; on the Transplantation of Bones taken from Animals which have been dead some time, *ibid.*, same date, and March 24.
5. *Paravicini, M.* Subperiosteal Resection and Disarticulation of the Lower Jaw, Annali Universali di Medicina, and Gaz. Méd. de Paris, July 16.

6. *Rouget, M. Charles.* The Skeleton of Vertebrate Animals in relation to the Morphology of the Locomotive Apparatus, Jour. de la Phys., January, 1860.

7. *Sédillot, M.* On Regeneration of Joints after Resection, Gaz. Méd. de Paris, November 12, 1859; on Subperiosteal Resection, *ibid.*, December 31, and Gaz. Hebdom., December 30.

Taking as a ground-work M. Ollier's papers, we find him first describing the results of his experiments on the artificial production of bone by transplantation of the periosteum.

The experiments were performed on rabbits of various ages. A marked difference was observed in the results according to the hygienic condition of the animals. In healthy rabbits, operated on in the country, union most frequently commenced at once, and in four or five days the secretion of ossifiable blastema could be felt through the skin. In animals, on the contrary, kept in Paris, in cages or boxes, death frequently followed the operation. After operation, the animals were kept in a cage during two or three days, after which they were allowed more freedom. A good supply of food is necessary, otherwise the work of reparation is arrested. In proof of this, M. Ollier removed the radius and the second metatarsal bone of a rabbit, and placed the animal for three weeks in a small, unhealthy place, with scanty food. Although the periosteum had been preserved, reparation had scarcely commenced at the end of the time. The operation was then repeated on the opposite side, and the rabbit was placed in an airy situation and well supplied with food. At the end of six weeks the bones removed by the second operation were found to be more completely restored than those which had been taken away at the first.

The experiments of M. Ollier are divisible into three series:—

First. Those in which a slip of periosteum was partially removed, but left more or less adherent to the bone; in these the slip was grafted among the muscles or under the skin, but still received some vessels from the bone.

Second. Those in which the periosteum was separated from its attachment to the bone from three to five days after the operation.

Third. Those in which a portion of the periosteum was entirely removed at once, and transplanted to another part.

1. *Transplantation of a flap of periosteum, left adhering to the bone by one end.*—The part operated on was the tibia; an incision having been made along the crest of the bone, the muscles were carefully turned aside, so as to denude the periosteum; the part to be detached was then marked out by a scalpel, and was dissected up, leaving one end attached; it was then introduced into a channel made for it under the skin or among the muscles, and the free end was fastened by a suture, to prevent it from becoming twisted. In three or four days, in young, healthy rabbits, the piece acquired a cartilaginous consistence, and sometimes became almost as thick as the tibia itself; but whether this was from infiltration from the surrounding tissues or from the blastema intended for the formation of bone, it soon diminished and gradually became more distinct and osseous. In almost all the experiments, there was a small nucleus of bone developed in the end of the periosteum beyond the suture. If the flap of periosteum escaped from the suture, it took the form of a spur, which projected more or less under the skin. In old rabbits the result was different, the wounds

secreted a serous pus, and there was, at the end of a month or six weeks, little or no trace of ossification. This shows that as age advances the osteogenetic power is diminished, though not entirely abolished.

To meet the objection that periosteum merely conveyed the blastema from the bone, M. Ollier calls attention to the formation of an osseous nucleus beyond the point where the periosteum was strangled by the suture. He also having detached a flap of periosteum, twisted it several times on itself and fastened the end by suture, as in the other experiments; the result was the formation, not of a perfect ring of bone, but of a circle formed of several separate movable osseous deposits, like a string of beads.

2. *Excision of the pedicle of communication three or four days after operation.*—In these experiments the ossific process continued. In one instance the newly formed bone became reunited to the tibia, but in another, where a larger portion of the attached end was removed, the new bone was found to be joined to the tibia only by some fibrous deposit.

3. *Complete removal of a portion of periosteum and transplantation into neighboring or distant parts.*—M. Ollier dissected a piece of periosteum from the tibia of a rabbit eleven months old, leaving it attached by a few filaments of the extensor muscle of the great toe. Six weeks afterwards the piece had ossified, and was entirely independent of and movable on the tibia. In other experiments he transplanted portions of periosteum from the tibia under the skin of the groin, the back, and the popliteal space; in these cases, also, bone was formed. The new bone was not equal in size to the removed portion of periosteum from the shrinking which the latter had undergone.

The osteogenetic property does not reside alike in the periosteum of all bones. M. Ollier dissected up a portion of the pericranium of a rabbit three months old, leaving it attached at one end, and fastened it by suture under the skin so that the deep surface was turned outward. At the end of six weeks, there was but very slight trace of ossification, except along the edge of the slip where it still adhered to the bone. This result is in conformity with the demonstration of Heine, that the pericranium is not of itself sufficient for the reparation of bone.

At a meeting of the Societé de Biologie, in July, 1859, M. Ollier exhibited some specimens bearing on the question whether the dura mater performs the functions of a periosteal membrane. He transplanted portions of the dura mater of young rabbits under the skin in various parts of other animals of the same kind; at the end of five or six weeks portions of bone were found to be formed. The osteogenetic property of the dura mater he found to diminish with the age of the animal, and this, he thinks, explains why bone is so often not reproduced after the operation of trephining. Bone was not formed from the parts of the dura mater not in direct contact with the skull—the falx cerebri, for instance; pathological ossification, however, takes place very frequently in this situation. Ossification was more abundant in portions taken from the base than from the concavity of the skull.

M. Berruti has performed some experiments which confirm those of M. Ollier. In dogs he has raised flaps of periosteum, leaving them attached at one end, and has laid them with their inner surface in contact with a muscle; a plate has been formed, having all the histological characters of bone. In another instance he removed a flap of periosteum from the radius of a young dog, and fixed it to the muscle of one of the thighs of the same animal. The wound in the skin united without suppuration. On examination, after some time, the muscle was found to have a bony plate deposited in it. In another similar experiment, the transformation into bone was observed to be in progress. M. Berruti did not find any trace of cartilage in the tissue undergoing the osseous transformation.

External characters and structure of the bone formed by transplantation of periosteum.—The heleiotopic bone presents all the characters of normal bone. [M. Ollier uses the term heterotopique, (from *eteros*, another, and *topos*, a place,) to denote development in abnormal or extraordinary situations. We retain it in an English form, as being convenient and expressive.] Externally it is covered by periosteum; internally it contains medullary spaces, which unite in a tolerably large canal. At the periphery, there is a layer of compact tissue. When the periosteum has been allowed to remain partly connected, the heterotopic bone contains a medullary canal perfectly distinct from that of the original bone. The canal is formed gradually, by thinning of the osseous tissue, the development of vacuoles or spaces and the removal of the trabeculæ which separate them. Bones formed from transplanted periosteum are generally smaller than the piece of membrane, probably because of the necessity for the formation of a new vascular organization, and from the contraction of the piece of periosteum; but they also present a tendency to the formation of a medullary canal in their interior.

On examining thin slices of heterotopic bones under the microscope, they are found to contain osseous corpuscles, arranged in the compact substance in distinct layers, round, vascular, or Haversian canals, not however so regularly as in normal bone; but the specimens examined by M. Ollier were, it must be noticed, not more than eight or ten weeks old. The Haversian canals are generally parallel to the axis of the bone. The medullary canal contains (*a*) free nuclei, and small cells with a distinct round nucleus; (*b*) patches of numerous nuclei, generally infiltrated with fatty granulations, and containing several nuclei analogous to the free nuclei; (*c*) fat; (*d*) fibroplastic elements, and fibrils of connective tissue; (*e*) blood-vessels. The vessels enter through one or more nutritive foramina.

The heterotopic bone frequently presents a longitudinal groove on the whole length of one of its surfaces. It is always observed on the side where the edges have been turned on themselves, toward the internal surface of the periosteum, and indicates an inequality in the secretion of the blastema. The furrow is generally noticed also on bones reproduced after subperiosteal resection; it here corresponds to the incision in the membrane, through which the bone has been removed.

At their commencement, at least, the heterotopic bone is more or less adherent to the neighboring parts; the external surface of the periosteum is less distinct from the surrounding cellular tissue than the periosteum of normal bone. When developed round the leg the bone adheres to the sheaths of the muscles, so as to impede the action of these organs. At first, the tendons also are more or less completely fixed to the bone, but gradually motion is allowed, by means of a loose cellular tissue, which would perhaps at last form a serous bursa.

Mode of development of heterotopic bones.—From the first there is an effusion of lymph, at first serous, afterwards more consistent, infiltrating the slip of periosteum and the adjacent tissues. The periosteum then becomes turgescent and its capillaries are filled with blood; on its internal face there is produced an exudation, which at first sight resembles that furnished by the external surface and the neighboring tissues, but which is soon distinguishable by its greater density; it goes on increasing while the other becomes absorbed. In four or five days, or thereabouts, there is an accumulation of transparent or slightly yellowish-gray firm matter under the periosteum, or rather in it, (for the edges are glued together so as to form a complete sheath.) This blastema is chondroid, rather than cartilaginous. At about the seventh or eighth day, the deposition of earthy matter commences. It is not necessarily preceded by true cartilage, but sometimes there is a hard elastic substance, having the external characters of this tissue. Ossification commences at the centre, and advances rapidly to the periphery; and when the whole mass is permeated, the process goes on while the periosteum deposits new layers of blastema. Although the deposit of earthy matter is general, the bone remains flexible for some time, and might be considered as still cartilaginous until laid bare and examined, when it is found to be friable and finely granular. It gradually acquires the appearance and consistence of normal bone. The process here described indicates that the production of heterotopic bone is not necessarily preceded by the formation of cartilage; and this might be expected, inasmuch as it is not normally found under the periosteum.

By scraping the internal face of the periosteum at the commencement, a layer of blastema is detached. On placing this under the microscope, it is found to consist of a large number of nuclei, and of cells analogous to those which are found in the embryonic tissues. The free nuclei, which form the predominant element, lie in the midst of a more or less granular amorphous substance. Here and there same fusiform cells are found, as well as very fine fibres—the latter being more apparent if some force has been used in scraping the periosteum. There are also cells, some with one nucleus, others larger, with several nuclei. These large cells are often very regular in outline. The younger the animal the more abundant is the blastema. In this blastema the process of ossification goes on in the same manner as has been described, with regard to the formation of normal bone beneath the periosteum, by Virchow, Sharpey, Kölliker, Robin, and Rouget.

When cartilage is met with, it is rare to find cavities containing many cells; and there is nowhere the regular arrangement observed in ossific cartilage.

Do the heterotopic bones continue to increase in size? M. Ollier observes that, to answer this question, a period of several years would be required; but, in the mean time, reasoning from analogy, it is fair to infer that they would at least increase in thickness, like normal bones, since the periosteum exists in both cases.

Nature of the process which takes place on the internal surface of the periosteum; immediate origin of the new bone.—If after detaching a portion of periosteum, one-half of it is gently scraped on the internal surface, the osseous tissue will be formed from the part only which has not been so treated.

M. Ollier dissected up a flap of periosteum, leaving it attached at one end, and scraped the part nearest to its attachment to the bone. At the end of ten days this portion was merely fibrous, although traversed by numerous vessels; the part which had not been scraped presented a partly ossified deposit. Hence he concludes that neither vessels nor the external part of the periosteum are sufficient for the production of bone. The production of bone may also be prevented by touching the internal surface of the periosteum with a caustic.

In order to determine more closely the action of the subperiosteal blastema, M. Ollier proceeded to transplant it alone to distant parts. Having gently scraped some from a flap of periosteum, he inserted it under the skin of the axilla of one animal. In a week there were found small masses of a yellowish substance, having the external appearance of fat, but which, under the microscope, were found to contain nuclei of subperiosteal blastema, mixed with fragments of a granular fibroid substance, in which the presence of carbonate of lime was detected by hydrochloric acid. These masses, when treated with acid, presented elongated nuclei with more or less irregular outline.

M. Ollier makes some comments on the doctrines advanced a century ago by Duhamel, with reference to the function of the periosteum in the formation of bone. At first Duhamel regarded the bone as increased by the ossification of layers of the periosteum, but he subsequently modified this view; and in 1757, he thus expressed the analogy between the formation of wood and that of bone: "Wood increases by the addition of fine layers deposited between the wood and the bark. Bones increase in size by the formation of layers between the periosteum and the bone." He could not, M. Ollier observes, be more explicit at a period when the knowledge of the production of tissues was very imperfect.

Transplantation of periosteum after death.—In his experiments, M. Ollier took care to operate rapidly, lest the properties of the periosteum should be destroyed by the least amount of cooling and desiccation. He finds, however, that though rapidity in operation is most important to the production of regular and abundant ossification, the osteogenetic property is not at once lost. In January, 1859, he transplanted a piece of periosteum which had lain on his table seven or eight minutes, and had been washed with cold water; it became adherent and granules of bone were formed in it. In other cases he has succeeded with pieces which had been removed from fifteen to twenty minutes; and in periosteum removed from animals even as late as an hour and a half after death, the osteogenetic property was not entirely lost. He believes, moreover, that this limit may be carried still further under favorable conditions of temperature, etc., and according to the mode of death.

Transplantation of the periosteum of an animal to another of a different species.—In the experiment al ready referred to the periosteum was transplanted to animals of the same species; but M. Ollier has further tried the effects of introducing portions of periosteum under the skin of animals of different species from those from which the membrane was taken. He has thus experimented on the dog, cat, rabbit, guinea-pig, calf, goat, sheep, and hen, with the following general results:—1. The flap transplanted is entirely absorbed in a longer or shorter time. At first the wound heals; and for some time a small, hard nucleus is felt, which, however, gradually diminishes and disappears, so that no trace can be found on *post-mortem* examination. 2. The flap sloughs and is thrown off by suppuration; this result was most frequently observed in rabbits, on which periosteum from the dog had been engrafted. 3. The flap becomes encysted without suppuration. At first the experiment appears to have succeeded; the flap is retained in its place by plastic lymph; but this lymph soon becomes organized into a cyst, and the periosteum undergoes fatty change. Sometimes the cyst contains thickened pus. This latter result was observed chiefly in rabbits; the former in experiments with the combs of cocks. 4. The periosteum becomes adherent to the neighboring tissues, vessels are formed in it, and it continues to live as a fibrous membrane; but no bone is produced. This was observed several times in cases where periosteum was transplanted from the dog to the rabbit, and from the rabbit to the hen. 5. The periosteum not only forms a fibro-vascular adhesion to the neighboring tissues, but produces osseous tissue. This result, however, is very rare, even in animals of closely allied species.

Modifications which bone undergoes when denuded; regeneration of the periosteum.—It has long been known that a bone deprived of periosteum is not of necessity condemned to necrosis. Tenon proved this by experiment; and Macdonald, in 1799, showed that periosteum was reproduced after being destroyed. At a later period, this opinion has been supported by Cruveilhier and Flourens. In none of his experiments has M. Ollier observed a sequestrum at the part where the bone has been denuded. Immediate union takes place, or the wound suppurates.

In the first case the following phenomena are observed: In a short time after the bone is denuded, it becomes covered by a thin, soft, transparent layer, which soon becomes distinct from the effused plastic lymph. Toward the eighth day it resembles a coat of varnish spread over the bone. It unites with the edges of the old periosteum. At first it is without vessels; but three or four days later, these appear at the edges, being furnished by the periosteum; and in the centre, when they are supplied by the bone. The old periosteum is puffed up and thickened all around, and small tufts of vessels are seen advancing from the circumference to the centre of the denuded portion, so as to cover the varnish-like layer of blastema. In the mean time, cellular and fibrous elements are developed, and form a fibrous membrane analogous to periosteum.

To ascertain whether the new membrane thus formed is really periosteum, M. Ollier, in two instances, removed and transplanted it; but the experiment failed, probably from being performed at too early a stage (three weeks.) He subsequently performed other experiments, taking care to allow six or seven weeks for the formation of the new periosteum. In an instance related in the *Journal de la Physiologie* for July, 1859, he removed the newly-formed periosteum forty-three days after the first operation; it was thicker than the normal membrane, and was easily isolated. He then inserted it among the muscles of the leg; and at the end of twelve days, bone was found to be formed. Periosteum was again commencing to be formed in the bone which had been thus twice denuded.

M. Ollier differs from the opinion of M. Flourens, that the periosteum is capable of being reproduced indefinitely. He allows that periosteum may be removed and reproduced again and again; but this, he says, can occur only when the bone which it covered has not also been taken away.

Bone, when denuded, becomes slightly roughened while the new periosteum is being formed; it loses its whiteness and becomes reddish, and presents punctiform vascularity on its surface. When, however, the new periosteum is formed, the bone continues to grow regularly; and in rabbits, at the end of two months, it has regained its normal appearance.

When the wound is the seat of prolonged suppuration, the bone remains denuded for several days; then fleshy granulations appear on its surface and the superficial layer is gradually absorbed. When cicatrization is perfect, the surface of the bone is unequal; round the denuded part, at the limits of the old periosteum, there are projections, sometimes large; while more or less deep depressions are seen in the part which has been the seat of exfoliation. These inequalities tend to disappear gradually. While this work is going on, the bone is covered with a fibrous layer; but this new membrane is always more or less confounded with cicatrix outside it, so that it is not certain whether it is a true periosteum.—(*British Medical Journal*, May 26, 1860.)

MATERIA MEDICA AND THERAPEUTICS; MEDICAL CHEMISTRY; TOXICOLOGY AND LEGAL MEDICINE.

BY EMIL FISCHER, M.D.

MATERIA MEDICA AND THERAPEUTICS.

I.—*Kamela: (Rottlera Tinctoria;) its History, Properties, Medical Uses, Doses, etc.*

History.—This plant was known to the Hindoos from the remotest antiquity, the fruit of which was employed by them as a remedy for worms, and also in certain skin diseases. They likewise used it for dyeing and printing silks, etc., but for this purpose it underwent a chemical process, viz., an alkaline solution was mixed with the powder of the fruit, which yielded a beautiful orange-brown color. But its properties have only recently been demonstrated by Drs. Anderson and Mackinnon, who first introduced it into England. Kamela belongs to the natural order *Euphorbiaceæ.* It grows abundantly in the hilly districts of India, Burmah, the Philippine Islands, and the northeast portions of Australia. Its fruit ripens in February and March, when it is gathered, and the powder, which appears as an excrescence, is carefully brushed off, and preserved for use.

Properties.—The powder of kamela is of a red-brick color, with little or no oder and flavor, and, like lycopodium, it is difficultly miscible with water. Ether extracts a quantity of its resinous components, and if the solution be allowed to stand for a few days a precipitate of granular crystals is formed, which, when purified, is seen to consist of small scales of a yellowish color and satiny lustre, and named, by Dr. Anderson, rottlerine. Alcohol extracts its medicinal constituents most perfectly, and the tincture made with rectified spirit is found to be very suitable for administration. Its formula, on analysis, is found to be $C^{22}H^{10}O^{6}$. Its composition is as follows:—

Resinous coloring matter	78·19
Albuminous substances.	7·34
Cellulose, etc.	7·12
Carbon	3·86
Water	3·49
Volatile oil	A trace.
Volatile coloring matter	A trace.
	100·00

Medical uses.—Kamela has been successfully given in cases of tænia, and Dr. Mackinnon considers it of much greater value in those cases than either kousso or turpentine. Dr. Anderson describes ninety-five cases of tænia, in "ninety-three of which the worms were expelled after the third or fourth dose." It has been used, also, with very great success for tape-worm and ascarides, by Dr. Arthur Leared, of the Great Northern Hospital, and by Dr. William Moore, of Dublin. The *Lancet*, of May 15th, 1858, records six cases of cure of tape-worm, by Dr. Ramskill, of the Royal Free Hospital. In some instances sickness, headache, and purging are produced by it, but generally its administration is attended by no unpleasant result.

Dose.—In powder, the dose of this remedy is from one to three drachms early in a morning, fasting. The tincture (*made by macerating half a pound of powder of kamela for fourteen days in a pint of rectified spirits of wine*) may be given in doses of from one to two drachms, night and morning, on lump sugar.—(*Chemist and Druggist*, London, March 19, 1860.)

II.—*On the Use of Chloride of Zinc in Diseases of the Skin.* By DR. VEIEL.

Dr. Veiel applies chloride of zinc, in the hospital at Cannstatt, in three different forms, viz., in alcoholic and in aqueous solution, and in the solid form, as stick or cylinder. The first of these preparations consists of equal parts of alcohol and chloride of zinc; the second, of ten parts of chloride of zinc, ten parts of muriatic acid, and five hundred parts of water; the third is obtained by heating chloride of zinc and casting it into sticks. The solid form (lapis zinci chloridi) the author makes use of in cases where he wants to penetrate to the greatest possible depth in order to destroy hypertrophic deposits, as are often seen in cases of *lupus hypertrophicus* and *tuberculosus;* in these cases the chloride of zinc is applied in exactly the same manner as caustic potassa according to the directions of Langenbeck. In *lupus exfoliatus* and *exulcerans* without hypertrophic infiltration, the spiritus zinci chloridi answers the purpose, and is used until the more or less developed or already softened tubercles are completely destroyed; the cure is then completed with the aqueous solution, (liquor zinci chloridi,) which is used also after the application of the stick. *Lupus superficialis sive erythematosus* requires the spiritus zinci chloridi, diluted with the liquor, for its treatment, as in this form of the disease the more superficial layers of the skin are implicated, and the morbid process rarely extends to the subcutaneous cellular tissue.

The indications for the three different forms of chloride of zinc are, in short, the following: The stick is to be applied in all cases where hypertrophic tissues require to be removed; the spiritus, where diseased subcutaneous tissues and degenerated superficial layers of skin are to be destroyed; the liquor, where the cure is to be hastened by an astringent and stimulating remedy, and a firm cicatrix is to be obtained. Besides in lupus, chloride of zinc is likewise applicable to many other cutaneous diseases: as for instance, to obstinate eczema, (the spiritus;) to remnants of psoriasis as are left after a cure by the preparations of tar, (the spiritus;) to sycosis, and favus after the removal of the hair, (the liquor;) to wart-like, circumscribed, scirrhous tumors on the nose, the cheeks, or lips, (spiritus;) to chronic, particularly callous ulcers of the leg, (spiritus;) to cysts, follicular tumors, fistulous passages, (spiritus;) to condylomata, soft warts, molluscum, (lapis,) seborrhœa, burns, and chilblains, (liquor.)

The principal advantages of chloride of zinc over other caustics are the following: 1. Chloride of zinc forms chemical compounds with all organic elements with which it comes into contact, especially with proteinaceous and albuminous substances; and those compounds themselves produce a deeply penetrating, caustic, and stimulating effect, in consequence of which the parts in their immediate neighborhood contract; the wound is thus rendered smaller, and the sound parts are brought nearer together. 2. The same stimulating effect hastens the establishment of suppuration and the detachment of slough; the healing process is thus accelerated, the surface of the wound assumes a more lively appearance, and exhibits better granulations. 3. In consequence of the contraction and uniform destruction, a superior cicatrix is formed. 4. The pain, although considerable in the beginning, lasts a comparatively short time, and can therefore be moderated very much by the administration of chloroform. By these properties chloride of zinc surpasses, first, the acids which produce more coagulation of the albuminous substances, and form a tough, leathery eschar, which does not penetrate very deeply and detaches itself but slowly and with difficulty, as the shrinking of the capillary vessels has an injurious effect upon the healing process; second, caustic potassa, which causes a saponification of the soft parts, not easily confined to proper limits, corrodes the surrounding tissues by its secretion, and produces eschars which are also slow in detaching themselves, and leave neither a favorable suppuration nor vigorous granulations behind; third, nitrate of silver, which acts much more superficially, establishes a more tardy suppuration of the destroyed tissues, and therefore causes more protracted pain and an inferior cicatrix; fourth, the preparations of iodine (the iodurated glycerin of Richter, and the preparations of mercurial iodides) penetrate, likewise, with less rapidity, produce a greater reaction of the surrounding parts, are therefore more painful, and, on account of their variable composition, uncertain in their action. With chloride of gold, chloride of bromine, Landolfi's paste, Pétrequin's caustic solution of gold in nitromuriatic acid, the author has not made any comparative experiments; nor with Cosme's powder or other arsenical preparations, which he has avoided on account of their dangerous and unreliable character.—(*Zeitschrift der K. K. Gesellschaft der Aerzte zu Wien*, iii. 8, 1860, and *Schmidt's Jahrbücher*, cvi., May, 1860.)

III.—*On the Efficacy of some Antipyretic Remedies.* By PROF. W. VOGT.

In a very extensive treatise on the antipyretic method of treatment, and its use in acute diseases in general, the author discusses the relative value of the different antipyretic remedies. In regard to the most important of these, *quinine* and *veratrine*, the author's experience seems to show that their power of suppressing fever appears to be nearly equal, if not somewhat stronger in veratrine. The action of veratrine seems to be more direct; it takes place without previous excitement, and proceeds principally from the spinal marrow. That of quinine, on the contrary, emanates, it seems, from the brain, and is preceded by excitement. It is more indirect, and rather a secondary than a primary effect. Hence it follows that veratrine probably deserves the preference in febrile diseases which are violent and rapid in their course. The excellent results which the author has observed from the administration of veratrine in pneumonia, induced him to abandon the use of quinine in the treatment of this disease. From this highly beneficial effect of veratrine, the author was led to suppose that it would be equally serviceable in puerperal fevers of a malignant and violent character. In typhoid fever, it is to be preferred at the commencement of the disease; so much the more the higher the fever is, the greater a general hyperæmia, and the stronger and more active congestions of the brain are present. In cases taking a slower course, if the febrile reaction is less violent, if the hyperæmia is owing to venous stagnation, and, finally, in the later periods of the fever, where an anæmic and adynamic condition is observable, quinine is to be preferred. Veratrine has a stronger antipyretic effect than quinine. When the eruptive fevers show a tendency to real local inflammations, veratrine deserves the preference. The author arrived at this conclusion from its favorable action in pneumonia and those puerperal fevers which are distinguished by intense local inflammation. If the fever appears to be, however, more independent, and not accompanied by any essential local inflammation, quinine is preferable, provided that the character of the case does not present decided indications for the use of veratrine. The toxical effects of quinine are more serious, and cannot be watched as easily as those of veratrine. In typhoid fevers it was unmistakable that veratrine did more toward relieving the head from unpleasant symptoms than quinine. The latter admits of the doubt whether, after its exhibition, the cerebral affection is owing to the disease or to a remaining intoxication, produced by quinine. If the cerebral symptoms are caused more by venous congestion, quinine may act more favorably than veratrine. The author prefers, consequently, veratrine as a general antipyretic; in regard to other effects, however, quinine surpasses veratrine in malarious fevers of a less rapid course, in other febrile diseases during the later periods, where symptoms of anæmia and adynamia have commenced to show themselves, and where the fever is to be slowly suppressed.

Among other antipyretic remedies recently used, the author mentions *digitalis* and the *alcoholic remedies*, which were employed already by Brown. He has convinced himself of the powerful antipyretic properties of digitalis in a small number of cases of pneumonia, but was deterred from further experiments by the dangerous symptoms produced by the drug. The author has not tried the method proposed by Todd, according to which fever and inflammations are treated by larger doses of alcoholic remedies.—(*Schweizer Mon. Schr.*, iv. 5, 6, 7, and *Schmidt's Jahrbücher*, 2, 1860.)

IV.—*Tinctura Thuiœ in bad Smells of the Nose.* By DR. HOPPE.

Dr. Hoppe says that of all means for correcting bad smells of the nose, usually dependent upon excoriations of the mucous membrane, the *tinctura thuiœ*, (American *arbor vitœ*,) applied upon the finger, is the best, and although only a palliative, it is a very effectual one in a very annoying infirmity. It is also of use in diminishing the smell arising from smegma præputii, and the smells proceeding from the feet and axilla.—(*Berlin Med. Zeitung*, 1859, No. 52, and *Med. Times and Gazette*, March 31, 1860.)

V.—*Chlorodyne; its History, Preparation, Properties, Therapeutic Effects, Doses, etc.*

History.—Chlorodyne was invented in the year 1848 by Dr. Browne while officiating in his medical capacity during the prevalence of cholera and diarrhœa among the troops in India, and was introduced to the notice of the faculty by him as "a combination of perchloric acid with a new alkaloid."

Preparation.—From Dr. Ogden's analysis it appears to be composed as follows:—chloroform, six drachms; tincture of capsicum, half a drachm; oil of peppermint, three drops; muriate of morphia, eight grains; perchloric acid, twenty drops; Steele's hydrocyanic acid, twelve drops; tincture of Indian hemp, one drachm; treacle, one drachm. Dissolve the morphia in the perchloric acid; then add the tincture of hemp, capsicum, peppermint, and chloroform, and lastly, the treacle and prussic acid.

Properties.—Chlorodyne is a volatile liquid possessing a pungent smell and taste. It is soluble in alcohol, but insoluble in water; but may be conveniently administered in that liquid by suspending it in a little mucilage. The alkalies and alkaline salts decompose it. In color it is dark brown, and in weight equal to twice its bulk of water. It is anodyne, sedative, diaphoretic, astringent, antispasmodic, diuretic, etc. Unlike the preparations of opium, it does not produce headache, giddiness, prostration of strength, nor stupor; but in large doses, and from a constipated state of the bowels, it is liable to produce nausea, which in the former case may be relieved by a small dose of sal-volatile, and in the latter by recourse to aperients.

Therapeutic effects.—The changes produced by this preparation on the system, are—first, a gentle heat at the stomach, followed by a general glow and total absence of pain; second, a calm and refreshing sleep; and, third, an increase in the pulse from a "small, weak, thready, hurried, or bounding one to a full, yielding, elastic, natural sort of one, decreasing in frequency of beats as well as resistance to a healthy condition."

Of its powers in the cure of consumption, Dr. Stonehouse remarks: "The cases (among others) in which I have employed it have been twelve cases of phthisis; eight of these patients had been examined by other medical men, and had been regarded as genuine cases of consumption, so that the nature of the disease does not rest upon my testimony alone. They were all well-marked cases: for I do not mention several others in an incipient stage. Two of the cases were in the last stage—*i.e.* cavities had formed in the lungs; two others were bordering upon this stage. The remaining eight were in the second stage, that of softening; in five of these hæmoptysis was a prominent symptom. All these cases have done or are doing exceedingly well. Five of them have quite recovered; the others, with one exception, are in a fair way toward recovery."

Doses.—The dose of this preparation must be regulated according to the nature of the complaint. As an anodyne for febrile, inflammatory, or neuralgic affections, the dose is from ten to thirty drops; diaphoretic, in cases of coughs, colds, etc., ten to twenty drops; sedative, in consumption, etc., twenty to fifty drops; antispasmodic, in gout, rheumatism, etc., twenty to forty drops; astringent, in cholera, diarrhœa, etc., fifty to one hundred drops. It is best administered on lump sugar, and given at intervals from every half hour to every four hours.—(*Chemist and Druggist*, February 15, 1860.)

VI.—*On Opiated Colchicum Wine in Rheumatism.* By DR. EISENMANN.

Dr. Eisenmann, of Würzburg, first states the wide application which he gives to the word "Rheumatism," denoting by it every affection which may arise in the healthy system, independently of any specific cause, from exposure to cold. "By exposure to cold I do not understand merely the effect produced by the contact of cold water or cold and humid air with the external integument, but also that which takes place when cold and damp air penetrates into the lungs, or when cold water is taken into the stomach, the temperature of the body having been raised by exercise." This view is justified by the facts—1. That cold gives rise to the most various affections of the nervous and vascular systems. 2. That these various affections may become, by metastasis, transformed into each other. 3. That they communicate to the economy a marked predisposition to affections of the same nature, such predisposition being increased with each reproduction. 4. That they yield to the same treatment, whether they show themselves under the form of neuroses or of vascular affections. Under the title of rheumatic inflammation, therefore, the author ranges all inflammatory affections of the heart, lungs, pleura, peritoneum, kidneys, serous membrane of the liver, etc., when these are not due to any specific cause, and treats them in the same manner as acute articular rheumatism.

The means which beyond all others he has found of efficacy in the treatment of rheumatism is a mixture of colchicum and opium, the colchicum acting far more efficaciously when so combined, and then not giving rise to the half-poisonous effects which often attend its use when given uncombined. Neither the one nor the other substance will produce alone the advantageous effects which result from their union. Dr Eisenmann speaks not only from his own large experience, but from that of many of his medical friends, among whom "Eisenmann's Drops" have acquired a great reputation. These consist of twelve parts of colchicum wine and two of tincture of opium, twenty drops being taken three times a day. Instead of preparing the colchicum wine with sherry, as he formerly did, he now makes it according to the formula of the Prussian pharmacopœia, which directs one hundred and fifty parts of colchicum seeds to be macerated in seven hundred and seventy of alcohol; this preparation being always uniform in strength, and more active than the ordinary colchicum wine.

Although the above drops succeed so well in acute rheumatic affections, they are of little or no use in old and chronic cases. This induced the author to try the effect of adding minute doses of corrosive sublimate; and although his trials of this modification have been as yet too few to admit of an opinion being pronounced in respect to chronic cases, he has found the addition of great advantage in many cases of the acute form. Although in the various forms of rheumatism in which he has employed this treatment, he has not had to have recourse to preliminary bleeding, he by no means denies that this may not be occasionally desirable in the robust.

In treating *acute articular rheumatism* in this way, its course has usually been cut short in from the third to the fifth day, convalescence rapidly following, and no trace of heart affection persisting. When the pains have been very severe, tepid applications of a very weak solution of corrosive sublimate have been made to the joints, with the most satisfactory results. Sometimes after a rapid amelioration by means of the colchicum, when the pulse still continues irritable, and the tongue remains loaded, an emetic or purgative expedites convalescence. Among the rheumatic affections of the mucous membranes which may be rapidly and durably cured by means of the opiated colchicum, without the sublimate, may be specified angina, pulmonary catarrh, and influenza, gastric fever, catarrhal diarrhœa, and catarrho-rheumatic conjunctivitis. In the case of catarrhal ophthalmia, even of a severe character, its remarkable efficacy may be watched step by step. Among affections of the *serous membranes*, pleurisy and perihepatitis stand prominently forward as amenable to this treatment. Of parenchymatous inflammations, pneumonia has been the only one in which the medicine has been tried, and that only in two slight cases, which recovered with rapidity. In *muscular rheumatism* of the head, loins, etc., from two to four doses have always sufficed. It is also of great efficacy in cases of *rheumatic neuralgia*, especially in facial or intercostal, in sciatica and odontalgia. But the case must be recent, or it will be of no avail. In *odontalgia* the results are truly remarkable, a single dose rapidly dissipating the pain. The distinction between the rheumatic form of odontalgia and that arising from carious teeth is exhibited by the different effects of the colchicum. For the relief of odontalgia arising from carious teeth, the author, after having cleaned out the cavity of the tooth, introduces into it a morsel of nitrate of silver as large as a pin's head. In about a minute the moisture of the mouth dissolves this, and the mouth is then to be gargled with cold water, and the pain disappears. He has employed this plan of relieving the pain of carious teeth for the last twenty years, and he has seldom known it fail even after the ineffectual trial of various other measures. It causes no pain and it retards the progress of the caries.—(*Bulletin de Thérap.*, tome lvi. pp. 75, 120, and *Medical Times and Gazette*, April 14, 1860.)

VII.—*Caffein as an Antidote to the Poisonous Effects of Opium.* By PROFESSOR HENRY F. CAMPBELL.

Professor Henry Frazer Campbell, of Georgia, in the *Southern Medical and Surgical Journal* for May, 1860, publishes an article on this subject. After giving some account of caffein, and the use of coffee as an excitant, he describes the patient as a young man, twenty-four years old, who had, in a fit of mental depression, swallowed an ounce and a half of laudanum, nearly an hour before his visit, eight P.M. Narcotism had proceeded so far that emetics could not be employed; the muscles were greatly relaxed, the tongue falling back in the mouth and tending to stop respiration, and respiration exceedingly feeble. Cold water was applied to the head for a time, artificial respiration resorted to, and the stomach-pump then vigorously applied. At twelve o'clock P.M., the case seemed more hopeless; respirations but four to the minute. Artificial respiration in a sitting posture was then resorted to, which seemed to have a temporary good effect. Dr. Campbell then thought of coffee, but the patient could not swallow, and he doubted the propriety of using the stomach-tube in the then condition of the patient. Finding it difficult to get a strong infusion of coffee, the idea of employing caffein occurred; and having dissolved twenty grains in a quantity of infusion of coffee, it was administered as an injection by means of a syringe. In half an hour the respirations were eight per minute; an hour had not elapsed before he "*forcibly jerked his left arm from the assistants,*" and told them "to let him alone." The narcotism slowly passed off, and at ten o'clock next day, when Dr. Campbell called, the patient had left the hotel and gone home. Although the effects of the narcotism were apparent for several days, they soon wore off, and the patient entirely recovered. Dr. Campbell believes that the caffein in this case was largely concerned in the recovery, and points to that alkaloid as probably possessing valuable antidotal powers in cases of narcotic poisoning from this drug.—(*Am. Jour. of Pharmacy*, July, 1860.)

MEDICAL CHEMISTRY.

On the Method of Detecting the Presence and Estimating the Quantity of Sugar in Diabetic Urine, by means of Concentrated Sulphuric Acid. By JAMES M'GRIE, M.D., Glasgow.

A considerable variety of methods have been given by different writers on urinary diseases, for testing diabetic urine, and estimating the quantity of sugar contained in any given specimen. The sense of taste is perhaps the readiest means of ascertaining that saccharine matter is present in urine, and evaporation gives an approximate estimate of the quantity. Trommer's test is now most commonly employed, and the improvements made upon it by Barreswill and Fehling enable us to employ it not merely for the qualitative, but also for the quantitative determination of sugar in the urine. The fermentation test, also, is one fitted to give satisfactory results.

Having been engaged in 1849 in the examination of diabetic urine, I had frequently tried all the tests usually employed, and among others that of Pittenkofer, with bile and sulphuric acid. At that time there was no notice of Runge's test in Dr. Golding Bird's work, though it appeared in a subsequent edition. Runge only contemplated the production of a blackish color by applying dilute sulphuric acid to diabetic urine; while Pittenkofer employed it along with bile to produce a violet color. Neither of these methods affords satisfactory results. "Grape sugar," says Thudichum, "is not influenced by dilute acids, and not blackened by concentrated sulphuric acid. If grape sugar, dried at a temperature of 100°, is mixed with one and a half times its weight of concentrated sulphuric acid, it dissolves, and forms with the acid a combination which is an acid itself, and has been called sulpho-saccharic acid." However just this observation may be in reference to dried grape sugar, it does not apply to that form of sugar found in diabetic urine. When concentrated sulphuric acid is added to an equal volume of diabetic urine, and heat applied to ebullition of the mixture, the following changes occur:—

First, the fluid becomes blackish, and soon passes into a state of inky blackness. As soon as ebullition commences, the mixture begins to froth up, and continues to be covered with a layer of froth so long as the boiling continues. This layer of froth also remains after the mixture is cooled. In no other kind of urine except the diabetic are these appearances manifested. After the boiling has been continued for a short time, besides the intense black color, when the fluid is closely examined, there will be found copious evolution of carbonaceous particles. The high specific gravity of the fluid in which these fine black particles are suspended prevents their being deposited as a precipitate till it is largely diluted with water. In ordinary samples of diabetic urine a copious precipitate is speedily deposited on the addition of water. The precipitate should now be thoroughly washed on a weighed filter, till all the acid is removed and nothing but the pure carbon remains on the filter. After being carefully dried and weighed, the excess of weight of the filter containing the carbon over the weight of the filter without the carbon, will give the amount of carbon contained in the sugar; and when this quantity is found it is easy to calculate the weight of the sugar. The dried precipitate on the filter will be found in the form of numerous small pieces of jet-black carbon, which may be collected, and, by combustion, will be dissipated in the form of gas, without leaving any solid residue.

It may be objected to this test, that there are other kinds of urine which, when boiled with sulphuric acid, develop appearances somewhat analogous, if not altogether identical with those produced by diabetic urine. It is true that albuminous urine, when boiled with strong sulphuric acid, gives a deep, rich-brown color, approaching to black; but it presents none of the peculiar phenomena which we have noticed as accompanying diabetic urine when treated in a similar manner. The color is different; it does not froth; and when diluted with water, there is no deposit of black, carbonaceous matter, but the deep-brown color merely becomes less deep in shade.

Any probable fallacy as between albuminous and diabetic urine, will, if the following method is adopted, be completely dissipated. Let the urine be first acidulated with NO^5, and then boiled, when, if albumen is present, it will become coagulated, and may be removed by filtration; then proceed with the test as described above.

I have seen this test fail to develop the characteristic phenomena when applied after the urine has been kept a sufficient length of time to admit of decomposition taking place. A sample of urine which has already been found by Trommer's or some other test to contain sugar, may, after it has stood some time, be tested by sulphuric acid, and will probably fail to produce any of the characteristic reactions. It will be found in all such cases that decomposition has begun, and not only this, but every other test will fail. The precaution ought to be taken to have the urine operated upon as fresh and recent as possible, when embarrassing failures of this kind will be avoided.

The *modus operandi* of the sulphuric acid in its action on grape sugar is extremely simple and well defined. The sugar consists of $C^{12}O^{12}H^{12}$; that is, twelve atoms of carbon are combined with twelve atoms of HO or water. Strong sulphuric acid has a sufficiently strong affinity for water to decompose the sugar and remove from it all the elements of HO, and leave the insoluble carbon disseminated in fine particles through the mixture; and whatever action it may have upon the other constituents of the urine, it does not give rise to any other insoluble compound, if the necessary precautions have been taken at the outset to remove the mucus by filtration, and the albumen, if there is any present, in the manner indicated above. In some specimens of high-colored and concentrated urine, when there is a considerable quantity of animal extractive and coloring matter, the action of the sulphuric acid may develop a small amount of blackish particles, which, when treated in the same way as the carbon of diabetic sugar, are easily distinguished from it. It may be affirmed, without fear of contradiction, that there is no other kind of urine which comports itself in the presence of sulphuric acid in a manner analogous to diabetic urine. Grape sugar, in the solid state, is dissolved in SO^3, but in solution in the urine is decomposed by it. When treated with caustic potash and heat, the smell of burnt sugar is evolved, the solution becomes brown in color, and glucic and molassic acids are produced. In the crystallized state it contains, besides the constitutional elements of water, two equivalents of water of crystallization, which are dispelled by a temperature of 212°. When the temperature is raised to 284°, three equivalents of constitutional water are dispelled, and caramel is produced; but it is only when in a state of solution that sulphuric acid removes all the constitutional elements of HO. Of the ordinary tests Trommer's is preferred by some, Cappezuoli's, and the fermentation test by others. The sulphuric acid test is one which, if deemed worthy of a trial, will, in point of simplicity in manipulation and certainty in its results, be found second to none.—(*Glasgow Medical Journal*, April, 1860.)

TOXICOLOGY AND LEGAL MEDICINE.

1.—*On the Arsenic Eaters of Styria.* By CHARLES HEISCH, ESQ., F.C.S., Lecturer on Chemistry at the Middlesex Hospital Medical College.

"At the last meeting of the Manchester Philosophical Society, I observe that Dr. Roscoe called attention to the arsenic eaters of Styria. Having for the last two years been in communication with the medical men and other residents in the districts where this practice prevails, I shall feel obliged if you will allow me, through your journal, to make known the facts I have at present collected. The information is derived mainly from Dr. Lorenz, Imperial Professor of Natural History, formerly of Salzburg, from Dr. Carl Arbéle, Professor of Anatomy in Salzburg, and Dr. Kottowitz, of Neuhaus, besides several non-medical friends. If human testimony be worth anything, the fact of the existence of arsenic eaters is placed beyond a doubt. Dr. Lorenz, to whom questions were first addressed, at once stated that he was aware of the practice, but added, that it is generally difficult to get hold of individual cases, as the obtaining of arsenic without a doctor's certificate is contrary to law, and those who do so are very anxious to conceal the fact, particularly from medical men and priests. Dr. Lorenz was, however, well acquainted with one gentleman, an arsenic eater, with whom he kindly put me in communication, and to whom I shall refer again more particularly. He also says that he knows arsenic is commonly taken by the peasants in Styria, the Tyrol, and the Salzkammergut, principally by huntsmen and wood cutters, to improve their wind and prevent fatigue. He gives the following particulars :—

"The arsenic is taken pure in some warm liquid, as coffee, fasting, beginning with a bit the size of a pin's head, and increasing to that of a pea. The complexion and general appearance are much improved, and the parties using it seldom look so old as they really are; but he has never heard of any case in which it was used to improve personal beauty, though he cannot say that it is never so used. The first dose is always followed by slight symptoms of poisoning, such as burning pain in the stomach, and sickness, but not very severe. Once begun, it can only be left off by very gradually diminishing the daily dose, as a sudden cessation causes sickness, burning pains in the stomach, and other symptoms of poisoning, very speedily followed by death.

"As a rule, arsenic eaters are very long lived, and are peculiarly exempt from infectious diseases, fevers, etc.; but unless they gradually give up the practice, invariably die suddenly at last.

"In some arsenic works near Salzburg, with which he is acquainted, he says 'the only men who can stand the work for any time are those who swallow daily doses of arsenic, the fumes, etc. soon killing the others.' The director of these works, the gentleman before alluded to, sent me the following particulars of his own case. This gentleman's name I suppress, as he writes that he does not wish the only thing known about him in England to be the fact that he is an arsenic eater; but if any judicial inquiry should arise which might render positive evidence of arsenic eating necessary, his name and testimony will be forthcoming :—

"'At seventeen years of age, while studying assaying, I had much to do with arsenic, and was advised by my teacher, M. Bönsch, Professor of Chemistry and Mineralogy at Eisleben, to begin the habit of arsenic eating. I quote the precise words he addressed to me. "If you wish to continue the study of assaying, and become hereafter superintendent of a factory, more especially of an arsenic factory, in which position there are so few, and which is abandoned by so many, and to preserve yourself from the fumes which injure the lungs of most, if not of all, and continue to enjoy your customary health and spirits, and to attain a tolerably advanced age, I advise you, nay, it is absolute necessary, that besides strictly abstaining from spirituous liquors, you should learn to take arsenic: but do not forget, when you have attained the age of fifty years, gradually to decrease your dose till, from the dose to which you have become accustomed, you return to that with which you begun, or even less." I have made trial of my preceptor's prescriptions till now, the forty-fifth year of my age. The dose with which I began and that which I take at present, I inclose: they are taken once a day, early, in any warm liquid, such as coffee, but not in any spirituous liquors.' The doses sent were No. 1, original dose, three grains; No. 2, present dose, twenty-three grains of pure white arsenic in coarse powder. Dr. Arbéle says this gentleman's daily dose has been weighed there also, and found as above. Mr.—— continues: 'About an hour after taking my first dose, (I took the same quantity daily for three months,) there followed slight perspiration, with griping pains in the bowels, and after three or four hours a loose evacuation; this was followed by a keen appetite, and a feeling of excitement. With the exception of the pain, the same symptoms follow every increase of the dose. I subjoin as a caution, that it is not advisable to begin arsenic eating before the age of twelve or after thirty years.' In reply to my question if any harm results from either interrupting, or altogether discontinuing the practice, he replies: 'Evil consequences only ensue from a long-continued interruption. From circumstances, I am often obliged to leave it off for two or three days, and I feel only slight languor and loss of appetite, and I resume taking the arsenic in somewhat smaller doses. On two occasions, at the earnest solicitations of my friends, I attempted entirely to leave off the arsenic. The second time was in January, 1855. I was induced to try it a second time, from a belief that my first illness might have arisen from some other cause. On the third day of the second week after leaving off the dose, I was attacked with faintness, depression of spirits, mental weakness, and a total loss of the little appetite I still had: sleep also entirely deserted me. On the fourth day I had violent palpitation of the heart, accompanied by profuse perspiration. Inflammation of the lungs followed, and I was laid up for nine weeks, the same as on the first occasion of leaving off the arsenic. Had I not been bled, I should most likely have died of apoplexy. As a restorative I resumed the arsenic eating in smaller doses, and with a firm determination never again to be seduced into leaving it off, except as originally directed by my preceptor. The results on both occasions were precisely the same, and death would certainly have ensued had I not resumed arsenic eating.' One of the most remarkable points in this narrative is that this gentleman began with a dose which we should consider poisonous. This is the only case of which I have been able to obtain such full particulars; but several others have been mentioned to me by those who knew the parties and can vouch for their truth, which I will briefly relate.

"One gentleman, besides stating that he is well aware of the existence of the practice, says he is well acquainted with a brewer in Klagenfurth, who has taken daily doses of arsenic for many years. He is now past middle life, but astonishes every one by his fresh juvenile appearance; he is always exhorting other people to follow his example, and says: 'See how strong and fresh I am, and what an advantage I have over you all! In times of epidemic fever or cholera, what a fright you are in, while I feel sure of never taking infection.'

"Dr. Arbéle writes: 'Mr. Curator Kursinger, (I presume curator of some museum at Salzburg,) notwithstanding his long professional work in Lungau and Brinzgau, knew only two arsenic eaters—one, the gentleman whose case has just been related, the other, the ranger of the hunting district in Grossarl, named Trauner. This man was, at the advanced age of eighty-one, still a keen chamois hunter, and an active climber of mountains; he met his death by a fall from a mountain height while engaged in his occupation. Mr. Kursinger says he always seemed very healthy, and every evening regularly, after remaining a little too long over his glass, he took a dose of arsenic, which enabled him to get up the next morning perfectly sober and quite bright. Professor Fenzl, of Vienna, was acquainted with this man, and made a statement before some learned society concerning him, a notice of which Mr. Kursinger saw in the *Wiener Zeitung*, but I have not been able to find the statement itself. Mr. Krum, the pharmaceutist here, tells me that there is in Sturzburg a well-known arsenic eater, Mr. Schmid, who now takes daily twelve and sometimes fifteen grains of arsenic. He began taking arsenic from curiosity, and appears very healthy, but always becomes sickly and falls away if he attempts to leave it off. The director of the arsenic factory, before alluded to, is also said to be very healthy, and not to look so old as forty-five, which he really is.' (The man above mentioned seems quite to differ with Mr. —— on the impropriety of taking arsenic with spirituous liquors, and actually employs it as a means of correcting their effects. All others that I have heard of, concur in saying it should be taken fasting.)

"As a proof of how much secrecy is observed by those who practice arsenic eating, I may mention that Dr. Arbéle says he inquired of four medical men, well acquainted with the people of the districts in question, both in the towns and country, and they could not tell him of any individual case, but knew of the custom only by report.

"Two criminal cases have been mentioned to me in which the known habit of arsenic eating was successfully pleaded in favor of the accused. The first, by Dr. Kottowitz, of Neuhaus, was that of a girl taken up in that neighborhood on strong suspicion of having poisoned one or more people with arsenic, and though circumstances were strongly against her, yet the systematic arsenic eating in the district was pleaded so successfully in her favor, that she was acquitted, and still lives near Neuhaus, but is believed by every one to be guilty. The other case was mentioned by Dr. Lorenz. A woman was accused of poisoning her husband, but brought such clear proof that he was an arsenic eater as fully to account for arsenic being found in the body. She was of course acquitted.

"One fact mentioned to me by some friends is well worthy of note. They say: 'In this part of the world when a graveyard is full, it is shut up for about twelve years, when all the graves which are not private property by purchase are dug up, the bones collected in the charnel house, the ground plowed over, and burying begins again. On these occasions the bodies of arsenic eaters are found almost unchanged and recognizable by their friends. Many people suppose that the finding of these bodies is the origin of the story of the vampire.'

"In the *Medicinischer Jahrbuch des Œster Kaiserstaates*, 1822, neue Folge, there is a report by Professor Schallgruber of the Imperial Lyceum of Grätz, of an investigation undertaken by order of government into various cases of poisoning by arsenic. After giving details of six *post-mortem* examinations, he says: 'The reason of the frequency of these sad cases appears to me to be the familiarity with arsenic which exists in our country, particularly the higher parts. There is hardly a district in Upper Styria where you will not find arsenic in at least one house under the name of hydrach. They use it for the complaints of domestic animals, to kill vermin, and as a stomachic to excite an appetite. I saw one peasant show another, on the point of a knife, how much arsenic he took daily, without which he said he could not live; the quantity I should estimate at two grains. It is said, but this I will not answer for, that in that part of the country this poison is used in making cheese; and in fact several cases of poisoning by cheese have occurred in Upper Styria—one not long since. The above-mentioned peasant states, I believe truly, that they buy the arsenic from the Tyrolese, who bring into the country spirits and other medicines, and so are the cause of much mischief.'

"This report is, I believe, mentioned in Orfila's *Toxicology*, and in one or two other works, but I have not seen it quoted myself; it is interesting as being early and official evidence of arsenic eating.

"Since I received the above information, a gentleman, who was studying at this hospital, told me that when an assistant in Lincolnshire, he knew a man who began taking arsenic for some skin disease, and gradually increased the dose to five grains daily. He said he himself supplied him with this dose daily for a long time. He wrote to the medical man with whom he was assistant, and I have been for a long time promised full particulars of the case; but beyond the fact that he took five grains of arsenic, in the form of Fowler's solution, daily, for about six years, and could never leave it off without inconvenience and a return of his old complaint, I have as yet not received them.

"I have delayed publishing these facts for some time, hoping to get information on some other points for which I have written to my friends abroad; but as considerable delay takes place in all communications with them, I have thought it better to publish at once the information I have already received.

"All the parties spoken of are people on whom the fullest reliance can be placed, and who have taken much pains to ascertain the foregoing particulars. The questions which still remain unanswered are these:—

"First. Can any official report be obtained of the trials of the two people mentioned by Drs. Kottowitz and Lorenz?

"Second. Do medical men in these districts, when using arsenic medicinally, find the same cumulative effects as we experience here? Or is there anything in the air, and mode of living, which prevents it?

"Third. Can any evidence be obtained as to how much of the arsenic taken is excreted? To show whether the body gradually becomes capable of enduring its presence, or whether it acquires the power of throwing it off. (The fact of the preservation of the bodies shows that some considerable quantity must be retained.)

"I have proposed to the gentleman who furnished me with the particulars of his own case, either to make an estimate of the arsenic contained in his own urine and fæces during twenty-four hours, or to collect the same and forward them to me that I may do so, but as yet have received no answer."—(*Pharmaceutical Journal*, May, 1860.)

II.—*Studies on Strangulation.* By DR. TARDIEU.

Dr. Tardieu, in a paper on the above subject, endeavors to give an exact and practical definition to the term strangulation, as distinguished from suffocation and hanging, so as to constitute, if the term may be used, a medico-legal species. Dr. Tardieu thus defines strangulation: "An act of violence, consisting in the direct application of constriction, either around or in front of the neck, having the effect, by preventing the passage of air, of abruptly suspending respiration and life."

Our author teaches that strangulation, as a general rule, is an act of the non-suicidal kind; it is connected either with the marks of blows or wounds of the head, showing that consciousness has been destroyed before the constriction has been applied; or it is connected with suffocation, previously brought about by occlusion of the mouth and nose; or again, it is accompanied with signs of injury on other parts of the body. It is generally committed on women or new-born children, and it may, indeed, be regarded as an act only perpetrated on persons either physically feeble or paralyzed by some antecedent injury. After pointing out the difference of signs in cases where the strangulation has been made by a cord, and by the hand, and in cases where the resistance has been little and great, Dr. Tardieu notices that the face in strangulation is tumefied, violet colored, and as if marbled.

There is also a peculiar and constant sign, viz., ecchymoses, very numerous and of extremely small dimensions, upon the face, under the conjunctiva, and in the front of the throat, and in the chest. This sign is not absolute, as it may occur in suffocation; but it is very striking. The mark of the constriction by the cord differs from the mark produced by hanging, in that it is not deep; it need not be continuous around the neck; the edge of the furrow, instead of looking like parchment, is often pale, and approaches in color the violet tint of neighboring parts; it does not present any change of texture or consistency, no thinning, and no condensation. In cases where a stick or tourniquet has been used in the tightening process, a mark of the stick will be found impressed on the parts against which it rested, while in instances where the hand has been used, the mark of the fingers is often so fairly delineated, that the hand which the murderer used, and his position to his victim, may be determined. The appearances of the internal parts of the body are deep ecchymosis of the soft parts of the neck. This is especially brought out in instances where the hand has been the compressing body. The larynx and the trachea are rarely the seat of great mischief; fracture of the cartilages and fracture or luxation of the hyoid bone are quite exceptional. The internal surface is most frequently congested and of a uniform red color; sometimes violet mucus is found in greater or lesser quantity; the mucus is sometimes sanguinolent, and, in fact, Tardieu has seen it in some cases replaced by an exudation which, having coagulated, lined the larynx.

Luxation of the spine in true strangulation is doubtful. The lungs are not often obstructed, or but little; they are of moderately uniform rose color, sometimes strongly congested, sometimes quite normal. There is almost always rupture of the superficial air-vessels, giving rise to more or less extensive emphysema. The ruptures are multiple sometimes, isolated more frequently; united in groups, they give the lung the appearance of being scattered over with pseudomembranous patches of small thickness, very white, and of various sizes, but which, on being carefully examined, are found to contain small bubbles of air, and may be caused to disappear by simple puncture. The subplural punctuated ecchymoses scattered over the surface of the lung, which are the essential signs of death by suffocation, are not found as a consequence of strangulation, but there may be apoplectic clots in the thickness of the lung tissue, together with extravasation or infiltration of blood, varying in size, but always longer and more extensive than in suffocation.

The state of the heart presents nothing essential; there is no extravasation of blood, either under the pericardium or endocardium. The heart is sometimes empty, but there is generally found a little black fluid blood.

I have only once, if ever, found some semi-coagulated blood. The brain does not present any constant or precise characters in strangulation; it is found free from change as often as congested. The state of this organ differs remarkably from what is observed after hanging, where obstruction of the vessels of the brain is as frequent as it is rare in strangulation.

The signs of incomplete or attempted strangulation are thus described: The face is swollen, violet colored, marbled, spotted with red, and livid mucus escapes from the nostrils and mouth; the eyes are bloodshot, and there is ecchymosis under the conjunctiva; the neck is swollen and painful; the voice is broken; deglutition is very painful; the swelling extends to the entire cervical region, and to the lower part of the jaw; it is diffuse and accompanied by an ecchymotic coloring of the skin. Sometimes the swelling of the face and of the neck is considerable, and these parts are of a bluish color nearly throughout. In some cases the mark of the fingers is visible—more so than in complete strangulation—for the simple reason that, while life continues, ecchymoses have time to appear, and to render the mark more and more apparent.

Incomplete strangulation may produce a loss of consciousness for some hours, but in all cases there remains for some time an obstruction in the throat, great difficulty in speaking and swallowing, and various nervous disturbances. Thus violent compression of the neck and contusions of the cellular tissue and muscles may produce inflammation and even abscess.—(*Ann. d'Hygiène publique*, tome xi. p. 106, and *British and Foreign Medico-Chirurgical Review*, April, 1860.)

PATHOLOGICAL ANATOMY.

BY JOHN H. PACKARD, M.D., OF PHILADELPHIA.

I.—*Contributions to the Pathological Anatomy of the Spinal Cord.* By PROFESSOR VON LENHOSSÉK, of Pesth.

Professor von Lenhossék bases his pathological views upon examinations of three hundred and twenty-two bodies, conducted by him within the space of seven years. It would be well if all reporters of autopsies could say as he does: "I present in the following paper only such pathological observations as are adapted to the proof or elucidation of definite morbid processes, and correspond to the most evident phenomena of disease during life; carefully excluding everything which could be regarded as of post-mortem occurrence, or as due to the method of investigation."

A. Membranes of the Cord.

(*a*) *Arachnoid.*—(1) Exudation.—The author has three times seen exudations of lymph, gluing together the two layers of the membrane; in each case it was in the cervical region, and in two of the instances there was no hyperæmia of the membranes. (2) Formations of bone and cartilage.—These occupy the visceral layer, generally at the lumbar enlargement of the cord, and do not seem to be always traceable to inflammation. When bone forms, it begins at the centre of a plate of cartilage. Microscopically, this "cartilage" consists of coarse fibres; the bone resembles other osteophytes. (3) Subarachnoidal effusion.—This is rare, and usually of small extent; it was often observed in the victims of an epidemic of scarlatina, which prevailed in Klausenburg in the beginning of 1857. (4) Subarachnoidal extravasation (of blood).—Three cases of this are mentioned; one where suicide by hanging had been committed, a vein in the pia mater, at the lumbar region, having burst; one at the pons Varolii of a man aged sixty-two, who died of a capillary apoplexy; and one in a man aged forty-seven, in whom the fourth cerebral ventricle was distended with blood, and the arachnoid, from the calamus scriptorius to the root of the third spinal nerve, was raised up and infiltrated.

(*b*) *Pia Mater.*—(1) Sclerosis.—Thickening of the pia mater is quite commonly met with, and depends upon the formation of very irregularly arranged fibres, imbedded in which lie amorphous, yellowish-brown, molecular masses, regarded by Wedl as albuminous exudates. (2) Pigment-formation.—This is always abnormal, and occurs usually about the pons Varolii and medulla oblongata. (3) Hyperæmia.—This is most common at the lower portion of the cord, in hanged persons, and those dead of typhus, or of puerperal affections, or after traumatic inflammation of the membrane in question. (4) Thromboses.—Usually seen in the anterior vein or sinus; but this condition may affect the posterior. It is often associated with the preceding state. The occluding plug is commonly an amorphous, greenish mass, mixed with fibrinous clot. (5) Obliteration of the anterior spinal artery.—Once observed by the author at the decussation of the corpora pyramidalia, and twice at the cervical enlargement of the cord. The walls of the affected vessels seemed unaltered; in two cases there was roughening of the bicuspid and aortic semilunar valves, with enlargement and superficial softening at some portion of the valvular apparatus. (6) Corpora amylacea.—These bodies were most frequently found attached to the fibrous texture of the membrane, at the base of the brain.

B. Spinal Cord and Medulla Oblongata.

(1) *Dilatation of the Central Canal of the Spinal Marrow.*—Professor Lenhossék has never seen this canal closed, as described by Virchow. It is enlarged in cases of congenital dropsy of the ventricles, and especially in cases of failure of development of the brain. In adults the dilatation is often associated with gray softening; it is always but partial in extent. The dilated portion may be filled with fluid, rendered cloudy by epithelium detached and floating in it.

(2) *Formation of the Anterior Fissure into a Canal.*—This curious alteration of form can only be clearly understood by reference to the relation of the pia mater to this surface of the cord, dipping down between the two anterior columns. The adhesions which form between the two opposing faces of the membrane are never of great extent, but there are often several of them.

(3) *Atrophy.*—This often occurs as a senile change. It is apt to affect only a part of the cord, which thus assumes a knotty aspect; the pia mater becomes thickened at the spot. The color of the cord changes to a dirty gray, and its consistence is greatly increased. No change is observed under the microscope, except hypertrophy of the fibrous tissue of the pia mater; but chemical reagents show a decided diminution in the fatty matters of the cord.

Atrophy of the medulla oblongata has been seen by Professor Lenhossék, but never without other alterations. When both corpora pyramidalia are affected, the roots of the hypoglossal nerves are involved so as to cause hinderance or total loss of speech.

(4) *Fatty Deposit.*—This may affect the small vessels, oftener in the brain and spinal cord than in the medulla oblongata. It never occurs alone, but always along with gray softening, inflammation, or changes consequent upon apoplexy; capillary apoplexy may be due to it, as has been shown by Paget and Wedl.

Fatty change of the gray or white substance is met with at the seat of old apoplectic effusion, in the course of meningitis, or in connection with gray softening. Its manifestations are rendered very complex by the intricate manner in which the nerves are distributed. It is shown locally by the discoloration and singular firmness of the affected part, and by the greasy layer which appears on a knife-blade used in making sections of it; microscopically examined, the tubes are seen broken up or replaced by the granular cells pointed out by Turck. Colloid and amyloid bodies are observed in the gray substance, which is always secondarily affected, never primarily.

(5) *Softening.*—This is difficult of study, since it never occurs by itself, and is often, according to Engel, always due to post-mortem change. It does not keep pace with the putrefaction of the other soft parts; but sometimes, especially after repeated congestions of the brain, as in typhus fever, after apoplectic effusions, after suppurations of the muscles attached to the vertebræ, etc., it is very marked.

(a) *White* softening is the constant consequence of serous infiltration, and is always attended with swelling of the affected portion; if the white substance is attacked, it becomes creamy; if the gray, its color becomes paler. Softening of the cord is often limited to a small portion. When it is secondary to inflammatory exudation from meningitis, the pia mater cannot be stripped cleanly off from the surface of the cord.

(b) *Grayish-red* softening is due to long-continued local diseases, terminating in death; such as chronic myelitis, repeated capillary or other apoplexy, caries of the vertebræ, or, as observed by Oppolzer, the development of an echinococcus. Its limited extent distinguishes it from the results of post-mortem change.

(c) *Dirty-gray* or *granular* softening may attack the cord, the medulla oblongata, or the pons Varolii. It has no red tinge whatever; it always involves the whole extent of the affected part, and is attended with enlargement. Alcohol hardens the tissue so softened. This form of disease is apt to be met with in idiocy of a marked grade.

(d) The so-called *red* softening is always of small extent, and is the consequence of capillary apoplexy, the effused blood remaining fluid, and coloring the medullary substance by soaking into it. The *yellow* softening is, according to Förster, an advanced stage of this variety.

(6) *Sclerosis.*—This is rare, always of small extent, apt to occur at several points; it is sometimes seen in the young. Its cause is unknown; it consists in a substitution of tangled fibrous tissue for the substance of the cord.

(7) *Hyperœmia.*—This often attacks the pia mater and cord at once. It may assume the form of (a) varicosities of the veins outside of the cord or medulla oblongata; in connection with the latter they have been thought, by Van der Kolk, to be constant in cases of epilepsy; (b) pouching of the veins within the medullary substance; (c) aneurismal distentions of the capillaries; (d) apoplexy, which is very rare in the pons Varolii, and still rarer in the cord, except as the result of an injury.

(8) *Exudations.*—These present themselves as rounded, irregularly-placed masses, of brilliant whiteness and variable size, easily cut, but differing from colloid or amyloid bodies. They are only in exceptional cases associated with fatty change or with gray softening of the cord; and differ materially from the bodies described by Gluge as inflammation-corpuscles, and by Henle, Vogel, and Gerber, as exudation-corpuscles.

(9) *Tubercle.*—Ollivier saw tubercle several times in the pons Varolii, and others have seen it in the medulla oblongata and spinal cord.

(10) *Amyloid bodies* are, according to Professor Lenhossék, always attached to outgrowths of the fibrous texture of the pia mater, especially in sclerosis or senile atrophy of that membrane.

(11) *Colloid* deposits are seen at the seat of old apoplectic effusion, and in old people, according to Wedl, without any trace of causal disease. Professor Lenhossék has seen them, in a case of medullary carcinoma, both within and without the substance of the cord.

(12) *Fissuring* of the cord has been nine times seen by the author; in seven cases it was at the anterior surface, in two at the posterior. It seemed to be connected with grayish-red softening of the tissue, and the subjects had been

habitually dissipated; the youngest was thirty-five, the oldest sixty-five years of age. The nerves given off at the seat of the disease were atrophied in three of the cases.

(13) *Fibrous Cancer* was presented in the case of a female gipsy, fifty years old. It formed an oval, grayish, jelly-like mass within the substance of the cord, reaching from the third to the fifth nerve; and was composed of fibres, colloid masses, and fibre-forming cells.—(*Ausserordentliche Beilage zum fünften Jahrgang der Œsterreiche Zeitschrift für Praktische Heilkunde.*)

II.—*A Case of Epilepsy.* By Augustin Prichard, Esq., Surgeon, Clifton, England.

Our readers are probably all familiar with the report of the symptoms and post-mortem examination in the case of the late Dr. Alison, of Edinburgh, (quoted in Dr. Dunglison's "Abstract of Pathology and Practice of Medicine," in the number of this Review for March, 1860.) Mr. Prichard was reminded by that report of the following very analogous case, observed by him some years ago:—

"B. R. died in his seventy-first year, having been insensible from apoplexy for two days before. He had been totally blind from amaurosis, and nearly deaf for fifty-seven years, and had been the subject of epilepsy since his fourteenth year; that is, for about the same time. He had never less than three or four fits daily during this long period, and sometimes he had between twenty and thirty. * * * * Taking into calculation the lowest daily number of fits which this poor fellow had, the entire number must have amounted to at least sixty thousand, and probably was very many more; and, notwithstanding this almost incredible series of attacks in his brain, his intellects, such as they were, considering that their development had been checked by the early loss of the two most important senses, sight and hearing, were unimpaired and unaffected, and he lived until he had completed the term usually described as the age of man.

"*Post-mortem examination.*—The head only was examined. The dura mater externally was natural, but the arachnoid was very opake. The ventricles of the brain were filled with fluid [blood?] and coagula, being the cause of death. In the falx major anteriorly, but not quite touching the crista galli of the ethmoid, was a considerable plate of bone, an inch and a half long, tolerably thick, flat upon one side where it appeared to be rather lying upon or adherent to the fibrous membrane, than in its substance, and upon the other side it was marked by the contiguous convolutions of the brain as distinctly as we see them upon the orbital plate of the frontal bone. At the upper part of the convexity of the left hemisphere were two round deposits of bone, as large as nuts, under the arachnoid and in the pia mater, pressing down into the substance of the brain, which was much softened around them. There was a single, much larger deposit of the same shape below, and another was attached to the upper surface of the petrous portion of the temporal bone by a pedicle, and occupied a corresponding cavity in the substance of the middle lobe."—(*British Medical Journal*, April 28, 1860.)

[It is to be regretted that in this report no mention is made of the state of the blood-vessels, or of the other membranes of the brain.]

III.—*Softening of and Ecchymosis of Blood into the Pons Varolii and Medulla Oblongata; Tumor in Cerebral Hemisphere.* Reported by DR. JOHN OGLE, to the Pathological Society of London.

The case was that of a woman, aged forty-eight, the subject of epilepsy and insanity for, it was supposed, two years, who was admitted into the Somerset Lunatic Asylum about three weeks before death. On admission she was suffering from "drowsiness," which existed for almost the whole day, but from which she could be roused. Shortly after admission she had two apoplectic attacks with an interval of three days, and subsequently "giddiness" came on, which was so extreme as to oblige her to seek her bed. She died after being comatose (more or less completely so) for three days. On post-mortem examination, the dura mater was found distended with air, but was natural except at one part, covering the outer and back part of the left cerebral hemisphere, where it was lined to a short extent by a thick, tough piece of fibrous membrane, by which it was firmly adherent to the surface of the cerebral convolutions. At this exact part a rounded, firm, white mass, of the size of a pigeon's egg, was seen imbedded in the brain structure, and projecting as far as the surface. This mass had all the appearance of being carcinomatous in character. The brain tissue beneath and internal to this tumor was softened and of a creamy color. The septum and inner surface of the ventricles were also softened. The medulla oblongata and pons Varolii, especially at their posterior parts, were very much softened, and on section presented a vast number of spots of extravasated blood.—(*Med. Times and Gaz.*, May 5, 1860.)

IV.—*Cancer of the Heart.* Reported by DR. FULLER, to the Pathological Society of London.

The patient was a man, aged sixty-one. He was admitted into St. George's Hospital nearly moribund with dropsy and dyspnœa, amounting almost to orthopnœa. There was expectoration of a bloody-looking mucus, almost like that expectorated in pulmonary apoplexy. The history given was that he had had pains in various parts for three months, but no serious chest symptom until three weeks before his admission. On examination of the chest, the right side was found quite dull from pleuritic effusion. A slight systolic bruit was heard all over the heart, the sounds, however, appearing distant. Under treatment by stimulants and dry-cupping to the chest, the patient improved considerably, but he again retrograded and died. At the post-mortem examination, a mass of encephaloid cancer was found around the root of the right lung, implicating also the muscular tissue of the heart, the walls of the ventricles being completely infiltrated with it. The right lung was dragged down by the disease embracing its root, but was only just dipped into by it. The pleura on this side was full of fluid. The right pulmonary veins were obliterated, but the artery was still pervious. The disease extended to [as far as] the inferior cava and the œsophagus, but did not press on them. The other organs of the body were free from disease.—(*Med. Times and Gaz.*, June 2, 1860.)

[It can hardly be doubted that in this case the bronchial glands were the primary seat of the malignant deposit, and the involvement of the heart altogether a secondary, or, as it were, accidental phenomenon. The extreme rarity of cancer of this latter organ is shown by the fact that it is not mentioned by either Wedl, Rokitansky, or Hasse.]

V.—*Slit-like Perforation of the Aortic Valves.* Exhibited to the Pathological Society of Philadelphia, by DR. PACKARD.

The patient, a man aged forty, had been ill seven or eight weeks with rheumatism, attacking first the muscles at the back of the neck, and subsequently shifting to the intercostals. Dr. Kane, who was in attendance on him for the first five weeks, noticed a slight systolic murmur, most distinct over the heart's apex, but no cardiac disease could be clearly made out. Death took place from exhaustion and suffering. It should be stated that the patient had lived an irregular life, had had a sunstroke seven years before, and a severe attack of inflammatory rheumatism five years before his last illness.

Autopsy, twenty-two hours after death.

Head.—The pericranium was very closely attached to the bone, which was unusually thick. The meningeal vessels were distended with blood, but the cerebral sinuses were for the most part empty. There was a good deal of serum beneath the arachnoid. The brain substance was unusually dense, and a little congested. It seemed, as it were, saturated with serum, which dropped continually on the floor, when the organ was held in the hand. Very little serum was, however, found in the ventricles, which seemed quite normal. In the basilar artery, and in its afferent and efferent branches, there were firm clots of a deep-red color.

Thorax.—The lungs were healthy, full of air and frothy mucus. The heart was fatty, its substance being degenerated; it was large and flabby, and in its ventricles were contained very large, pale, firm clots, quite closely adherent to the inner surface of the wall, as well as entangled among the columnæ carneæ. All the valves on the right side were healthy; on the left side the mitral valve was thickened and somewhat rigid. The semilunar valves of the aorta were, however, the seat of the greatest lesion; one of them, behind which was the mouth of a coronary artery, was largely covered with vegetations, but an irregular perforation of the mass had in some way taken place; both the others were torn down from the middle of their free edges nearly to their places of attachment. Hardly any doubt could be entertained that this tearing had taken place some time before death; but from what cause it would seem difficult to explain.

Abdomen.—All the subcutaneous and subperitoneal fat was very abundant, but singularly irregular and straggling in the manner of its deposition. The liver was a good deal enlarged, and in a state of not very advanced fatty degeneration; the gall-bladder dark colored, but not very full. The stomach and intestines were apparently normal; they contained nothing but mucus and some bile. The spleen was large and rather soft, but healthy, as was also the pancreas. The kidneys were large and quite fatty; the supra-renal capsules healthy. —(*American Journal of the Med. Sciences,* July, 1860.)

VI.—*Case of Imperforate Arch of the Aorta, in which the Root of the Aorta was ruptured.* Reported to the Royal Medical and Chirurgical Society, by T. A. BARKER, M.D.

A man, aged twenty-four, supposed to be in good health, was suddenly attacked, while lacing his boot, with severe pain in the chest, followed by great dyspnœa. He was supposed to have pericarditis. In about a fortnight he came to the hospital much easier, and was said to be convalescent. There was extended cardiac dullness; no heart sounds; and no impulse, except to the right of the sternum. He died suddenly the next day. The coats of the aorta were not diseased, but it was very greatly dilated from the aortic valves to an inch below the innominata. Just below the ductus arteriosus it was completely closed by congenital malformation. There were two recent lacerations of the aorta close to its origin, and through these blood had become infiltrated into the substance of the heart; this had excited pericarditis, as was shown by a thick layer of shaggy lymph; and death had ultimately been caused by rupture of the visceral pericardium, and the escape of a considerable quantity of blood into its sac. The subclavian and internal mammary arteries were much enlarged.—(*British Medical Journal*, April 28, 1860.)

VII.—*Intussusception of the Ileum, caused by a Polyp.* Reported by DR. JACKSON, to the Boston Society for Medical Improvement.

The patient, a lad fourteen years of age, had exercised rather severely at a gymnasium, on the twenty-ninth of February. On Friday, March the 2d, he was attacked, after breakfast, with vomiting; and this continued as a marked symptom in the case, though there was some relief from the 3d instant to the 5th. No dejection throughout, excepting the evacuation of the large intestine. Very little tenesmus; and no discharge of blood or mucus, though some of a very dark, brownish fluid. Abdomen not very much distended. Pain moderate until the last two days, when it was very severe. Patient died on the 7th, at 1 o'clock P.M.

Dr. Jackson described the invaginated portion of the intestine as of an intensely deep-red, almost black color, and probably a foot or more in extent. The polyp, which hung from its extremity when the parts were in situ, was of an elongated, oval form, with a marked peduncle, smooth on the surface, quite flaccid, about two-thirds as large as the thumb, and looked at first like a large coagulum; its situation was about three feet from the cæcal valve. * * Dr. Jackson spoke of polyp as one of the recognized causes of intussusception, and referred to the following case which he examined in 1848. A female, aged seventy-five, had taken aloetic pills three times within two weeks. When under the influence of the third cathartic, she was attacked, while in the privy, with severe pains in the region of the cæcum. On the same day her physician found at the seat of the pain a tumor, which continued there as long as she lived. The pain was soon relieved by an enema; but there remained a tenderness about the umbilicus. The abdomen was hollow in the region of the arch of the colon. No dejection, but discharges of bloody water followed the enemata; and no tenesmus occurred except from these last. No nausea except on the fourth day; death took place on the fifth. The polyp was in the ileum, three feet from the cæcal valve, of the size of the top of the thumb, and hung from the extremity of the invaginated portion. This last was two and a half feet in length, but crowded into eight or nine inches; its neck was four or five inches above the cæcal valve, and its extremity within the cæcum. It was thickened by an infiltration of blood and serum, with blood and mucus upon its surface. Some appearance of peritoneal inflammation.—(*Boston Med. and Surg. Journ.*, April 12, 1860.)

VIII.—*Stricture* (*cancerous?*) *of the Rectum.* Exhibited to the Pathological Society of Philadelphia, by DR. PACKARD.

The patient, an Englishman, fifty-nine years of age, had suffered for several years from stricture of the rectum; he died worn out by suffering and impaired nutrition. He had lived a free life previous to his fatal illness.

"The skin was very pale, smooth, and destitute of hair, except upon the face and about the pubes. The subcutaneous fat formed an excessively thick layer, and a like deposit existed everywhere beneath the peritoneum; the appendices epiploicæ were very numerous and large. All the tissues were abnormally pale and soft.

"The stomach was pale, flabby, and easily torn; the intestines nearly empty, their walls very thin and soft, but without any other sign of disease; the colon was very much contracted throughout. The rectum was incased in an enormous quantity of fat, and strictured by a thread-like deposit of fibro-plastic matter. The liver was nearly white, and seemed almost like a mass of tallow, so extreme was the fatty degeneration it had undergone. The kidneys were imbedded in a very large quantity of fat, and their structure was degenerated; under the microscope some of the tubuli were of normal appearance, but many of them contained large oil-drops, and some of them were entirely empty; the epithelial cells contained clusters of minute oil-drops. The supra-renal capsules were pale, and their walls very thin. The spleen was healthy, but very small, and lighter colored than usual; the pancreas was quite healthy.

"The pleural cavities contained some liquid, the characters of which were not clearly made out, because the thorax was entered through the diaphragm. Both lungs presented spots of a white deposit, upon their surfaces only; the mass of each organ was pale, except posteriorly, where hypostatic congestion had taken place. The deposits were few in number, and of variable size; examined microscopically, they presented forms resembling the ordinary cells of cancer.

"The heart was loaded with fat, and its muscular substance had undergone fatty change to a very marked degree. Its columnæ carneæ were singularly subdivided, so that each column was very small, and the interior presented an unusual aspect. All the valves were healthy.

"Complete ossification of the costal cartilages had taken place.

"*Microscopically examined*, the deposit about the rectum, which was so tough that its structural elements could scarcely be separated by tearing with needles, was found to consist of very fine wavy fibres, many of them with elongated, nucleolated nuclei. These fibres were very long, and arranged in bundles.

"The deposit in the lung was evidently degenerated to a very great degree; but the very irregularly-shaped large cells, with one or more large nuclei, containing single or double bright nucleoli, which were here and there visible, resembled those generally met with in cancer. Most of each mass was in a granular condition, and the fibrous walls of the air-cells and tubes could be readily traced.

"The case now detailed presents several features of marked interest. Its whole course resembled that of cancer; and more than one gentleman, of far more experience than I could lay claim to, pronounced it positively to be of that character. And yet, although *a priori* any one would have looked to find an immense mass of disease, the whole of the adventitious deposit detected might have been contained in a teaspoon.

"The clinical symptoms—the emaciation and the want of healthy stools—may be accounted for in part by the disability for its function under which the liver must have labored more and more. Nutrition being interfered with, the intestines wasted, the heart became the seat of fatty degeneration, the kidneys suffered in like manner, and perhaps the spleen dwindled as the blood-making process grew less and less active. The extreme contraction of the colon may be accounted for by the fact that it received nothing from the upper portion of the canal to distend it.

"But how are we to understand the enormous accumulation of fat in the abdominal and subcutaneous cellular tissue? The limbs were quite thin, and the thorax, so far as was ascertained, contained no abnormal fat, except what was connected with the heart.

"Another difficulty is presented in reference to the order of sequence of the hepatic and rectal disease. Most probably they were simply coincident, perhaps coetaneous, but without any mutual connection, except that the rectal stricture may have aggravated the disturbance of nutrition due to the state of the liver." —(*Am. Journal of the Med. Sciences*, July, 1860.)

IX.—*Abnormal Position of the Right Kidney.* Reported to the Pathological Society of Philadelphia, by DR. WILLIAM R. DUNTON.

The patient, an Englishman, aged forty-five, died under Dr. Dunton's care, with symptoms of enlargement of the heart. At the autopsy, besides hypertrophy and dilatation of the heart, the following appearances were noted: "The liver was very much enlarged, and closely adherent to the under surface of the diaphragm; it contained a good deal of blood, but seemed to have undergone no morbid change. On its under surface, in a rather deep fossa, lay the right kidney; its long axis was horizontal and antero-posterior, and the supra-renal capsule lay at its posterior extremity; the peritoneum formed a suspensory ligament at each long border of the kidney, the two meeting at the apex of the capsular organ.

"The other kidney lay in its normal position, and, like its fellow, was small, but seemed healthy. In the supra-renal capsule of this side (the left) was what looked like a blood-clot of some age; both capsules seemed larger, more solid, and more lobulated than usual."—(*Ibid.*)

X.—*Aneurism(?) of the Internal Iliac, fatal by Rupture into the Vagina.* Reported by DR. COCKLE, to the Medical Society at London.

A woman, aged twenty-six, of most dissolute habits, was admitted into the Royal Free Hospital, with all the symptoms of serious loss of blood. Four months before, she had been attacked with violent hemorrhage from the vagina; and fourteen days before, she had again flooded, as was supposed, from miscarriage. On admission, she was deaf, and could give no very intelligent account of herself. Her right leg was swollen, œdematous, and excessively painful—the pain extending along the course of the femoral vein. Swelling was also detected at the inner and under surface of the thigh just below and beneath the adductor muscle. There was also excessive pain in the course of the sciatic nerve as far as the ham. The limb was perfectly paralyzed. There was difficulty in passing water, but no actual retention.

Four days later, she was again attacked with sudden and violent hemorrhage from the vagina, the second gush proving fatal.

Autopsy.—"The psoas and iliacus muscles were swollen and sodden with blood, elevating considerably the parts covering them. The internal iliac, at its very bifurcation, was diseased, and so fragile that it was impossible to separate it accurately from the immense mass of concentric layers of black and decolorized coagula surrounding and enfolding it. A channel had been formed below the peritoneum and fascia along the superior and right side of the vagina, which had given way. The aperture was about an inch wide. The external iliac vein and artery were healthy, and the former quite patent. Assuming that the idea of any violence used could be excluded in this case, it would be quite unique; no such instance having been recorded of disease of the internal iliac rupturing into the vagina, and so causing death."—(*British Med. Jour.*, March 31, 1860.)

XI.—(1) *Nutrition, Inflammation, and Ulceration of Articular Cartilage.* By RICHARD BARWELL, F.R.C.S., Assistant Surgeon Charing Cross Hospital.—(*Brit. and For. Med.-Chir. Review*, Oct., 1859.)

(2) *On the True Relation between Synovitis and Ulceration of Articular Cartilage.* By the same author.—(*Edinburgh Med. Journal*, Feb., 1860.)

(3) *On the Morbid Actions which constitute Osteitis.* By the same author.—(*Brit. and For. Med.-Chir. Review*, April, 1860.)

Mr. Barwell defends, in the first of these papers, the idea that the nutrition of articular cartilages is carried on solely from their deep or attached surface. Contiguous to this surface is a bony layer to which the name *articular lamella* has been given; it is paler and denser than the rest of the bone, and just beneath it is a rich plexus of vessels, derived not from the nutrient artery of the bone, but from the arteries lying around the neighboring joint. Ordinary bone structure always intervenes between this lamella and the cancellous cavities adjacent to it.

The articular lamella, says the author, "consists of a series of very minute parallel tubes, which run in a wavy course from the bony to the cartilaginous surface. Among these, but having no special, if any, communication with them, are the bodies mentioned by Kölliker as undeveloped bone-cells. In some sections—those, namely, which are not made quite parallel with the axis of the joint from which they are taken—the tubes of the articular lamella cannot be made out, but the section is minutely dotted from those tubes having been cut across." Cut in the other direction, these tubes are divided transversely, and show as dots or small round holes.

According to Mr. Barwell, "in every structure which consists of cells and an inter-cellular part, each cell has a certain district of the latter under its maintenance and control; hence the changes in texture or state of the hyaline structure of cartilage are all secondary." He would therefore divide the morbid changes of cartilage according to those which affect the cells, either as regards their contents or their activity. Their contents may undergo albuminous—called also granular—or fatty degeneration. Their activity may be either increased or decreased, the former being the most frequent and the best known. Dr. Redfern's experiments upon dogs are adduced in proof of the inflammatory character of this increased activity of the cell-formation. The hyperæmia attendant upon this inflammation is seated beneath the articular lamella, in the vascular plexus before spoken of; it is absent in mere degenerations, which are therefore unattended by symptoms.

In the second of these papers, Mr. Barwell refers to the history of its subject, quoting the views of Key, Brodie, Richet, Ecker, Goodsir, and Redfern. He describes the course of synovitis, from hyperæmia to extravasation, opacity of the membrane, papillation of its surface, and finally the formation of false membranes. "About this time appear in the cartilage some slightly elevated spots, which have lost their brilliant polish and translucent appearance, and have become of a dead, dirty-yellowish hue. These specks may be in any part of the cartilage, under the thickened fold of synovial membrane, or at its edge, or at the centre of the joint surface, where no false membrane as yet exists. If a section be made perpendicularly through one of these spots, it will be found to be conical in shape, the base being at the free surface, the apex deep in the structure of the cartilage. The depth at which the apex may be, increases with the age of the disease; sometimes there is a very perceptible breadth of apparently healthy cartilage between it and the attached surface; later, the cone is truncated by the bone." A microscopical examination shows an increased activity of the cell-formation of the cartilage in the diseased part; its free surface is seen to be very uneven, owing to the rupture of the cells, and the protrusion of the hyaline substance.

The false membrane springing from the synovial membranes, and therefore assuming a band-like form, now begins to encroach upon the cartilage, and to adhere to it at the diseased spots just described; the elements of the two textures becoming inextricably interwoven.

Stellate rifts now appear in the cartilage, due to the development of cells discharged from the ruptured corpuscles.

Meanwhile a hyperæmia and a formation of false membranes is taking place in the cancellous structure underlying the articular lamella; the bony substance gives way here and there; the nutrition of the cartilage is interfered with, and it undergoes fatty change and destruction.

From all this, Mr. Barwell concludes that "the disease is not merely a synovitis; it is an arthritis, affecting the tissues which line the cavity of the joint. Whatever the irritation may be which produces this arthritis, it affects those lining tissues equally, although the one may respond to the irritation more slowly than the other. The synovial membrane is not a closed sac, but a tube, the ends of which are occupied by the cartilage, so that the two structures together close in the cavity of the joint. The synovial membrane consists of one or more layers of cells, outside which is a fine membrane, on whose outside is a plexus of vessels yielding pabulum to the cells, the fluid from the vessels passing through the basement membrane to the cells. The whole apparatus, constituting the cartilaginous structure and its nutritient provision, consists of a layer of cells with intercellular substance, then of a fine bony stratum, which allows fluid to pass to the cartilage from a rich plexus of vessels at its other side, derived from the same vessels whence the synovial plexus arises. The histological parallel between the two structures, that shut in the joint cavity, is complete."

In his third paper, Mr. Barwell first describes the gross appearances of inflammation of bone; he then sketches the histological position and anatomical peculiarities of that tissue. He next details certain experiments instituted by him in order to obtain bone in the earliest stages of simple inflammation, by breaking the bones of rabbits. The following are the results obtained.

Inflammation, producing simple induration, commences by enlargement of the lacunæ, and increased development of the canaliculi, in number as well as in size. The bone-cells therefore seem crowded together. At the same time a granular appearance is observed affecting the intercellular substance, spreading from the Haversian canals or from the cancelli outward. The canaliculi disappear as this change advances, those directed toward the Haversian canal or the cancellus going first. A lamina breaks down in this way from both sides, leaving the central vessel, which is drawn out as a soft plug if the periosteum or endosteum be detached. The hole left by this drawing out represents the absence of a Haversian system.

When necrosis occurs, the dead mass is separated by ulceration, taking place a little distance from its edge. "In all sequestra are two portions, the actually necrosed, lined by indurated but living bone. If the slough have occurred in the centre of a bone, it is surrounded by the hardened tissue; if only on the surface, with death of the periosteum, the dead portion will only be lined by indurated bone on that side which was attached. On sawing through a sequestrum, and rubbing the cut surface smooth on a file or on a stone, the distinction between these two portions will be very evident; the centre or the edge, as the case may be, will appear of a dull leaden gray, surrounded or only lined on one side by white and hard bone, the slough bearing in color the same relation to the indurated portion, as a piece of note paper on which a drop of oil has fallen does to the clean white surface surrounding the spot. A section ground thin, and placed under the microscope, presents a similar difference of color, the light coming through the actually necrosed bone receives a dusky yellow tinge, which is not imparted to it by the hard tissue. The transverse section presents lacunæ not at all enlarged, and void of canaliculi, whose traces appear as slight serrations of the cell's edge; the laminated lines of the Haversian systems are abnormally distinct. * * * At the edge of the slough Haversian systems are frequently to be seen, half of which are necrosed, the other half indurated."

Thus the first step in inflammation of bone is an increase of the activity of its cells, as was the case in cartilage. Pus from bone contains traces of phosphoric acid and of lime, as if it held bone material in solution; the cells and intercellular substance breaking down as the soft tissues do under like circumstances.

Bi-Monthly Periscope.

SURGERY.

1. ON COXO-FEMORAL DISARTICULATION IN RELATION TO MILITARY SURGERY. By *M. Legouest.*—After the battles of the Alma and of Inkermann this operation was performed upon thirteen patients, all of whom died. The case of one of these, a Russian prisoner, is related at some length by the author. He was very nearly being saved, when he had a fall upon his stump, and was carried off by diarrhœa, owing to his being placed amid a large assemblage of patients confined to a small space, many of whom were the subjects of scorbutus, hospital gangrene, or purulent infection, and almost all were suffering from diarrhœa, dysentery, or cholera. This approach to success has given the author little desire to repeat an operation the value of which, he says, is much less in the eyes of the surgeon than in those of the public; and he thinks its performance should be reserved for organic diseases of the femur incurable by any other means. He has endeavored to collect all the instances in which this operation has been performed after gunshot injury. In thirty of these the operation was *immediate*, the whole dying; in eleven it was *mediate*, eight dying and three recovering; and in three it was *ulterior*, two dying and one recovering. Of the first category, some died during the operation itself, others soon after they had been carried to their beds, and all within ten days, except two patients, related by Larrey, one of whom lived twenty-one and the other thirty days. Should not an operation furnishing such results be positively interdicted? The proportion of three recoveries in eleven mediate operations is, on the other hand, a large one, especially when we consider the mortality from amputation of the thigh, and probably arises from the fact of all the unsuccessful cases not having been made known. Ulterior operations—*i.e.* those performed about a year after the accident—have succeeded once in three times, analogous as they are to the amputation necessitated by disease of the femur. Now, can this slight amount of success, which is not even so great as it seems, be compared with the results derived from attempts at the preservation of the limb? Unfortunately, many surgeons, almost in spite of themselves, lay more stress upon a successful case of operation than upon a recovery obtained by assiduous care, and by an ingenious combination of all possible appliances, independently of cutting instruments. The success of a dangerous operation is willingly published, while the more humble but more precious triumphs of conservative surgery are unrecorded. This is the case with most of the instances of fracture of the cervix or the trochanters which have been treated with preservation of the limb. M. Legouest has, however, here collected six instances, one of these having occurred in Larrey's practice, another in Sédillot's practice, and four in his own. Of these six patients, three lived; while in forty-four cases of amputation of the thigh, recorded as having been performed by skillful surgeons, and from which all doubtful cases have been eliminated, scarcely can four cases of authentic cure be discovered.

The practical conclusions he arrives at are, first, that all immediate amputations—*i.e.* before the early phenomena of suppurative inflammation set in—should, as laid down by Sédillot in 1841, be rejected. At all events, every effort should be made to obtain some delay. When an operation has to be performed, on account of gunshot wound of the femur, without lesion of the vessels, with large splinters that cannot be extracted, an amputation through the trochanters, or immediately above them, is preferable to disarticulation. This operation does not deserve the proscription that has been directed against it. The wound is smaller and less deep, and the head of the femur remaining in the normal position, if it does not diminish the danger of the operation, facilitates the subsequent application of prothetic apparatus. When, too, there is intra-articular fracture of the cervix, or fracture of the head of the bone itself, resection of the upper part of the femur should be preferred to disarticulation. This operation has now been performed in twelve or fourteen cases, and in more than a third it has succeeded. It is true that it failed in the two cases of gunshot fracture it was tried in; but how many times had coxo-femoral disarticulation been attempted before four authentic recoveries could be recorded? Complete ablation of the limb should be reserved for cases of fracture with lesion of vessels, for if these remained intact, resection should be preferred. To sum up: in ordinary cases—which are by far the most numerous—we shall derive more advantage from preserving than from removing the limb; and when an operation is determined upon, we shall defer it to the latest period consistently with the general condition of the patient.—(*British and Foreign Medico-Chirurgical Review*, January, 1860.)

2. REPORT ON THE CONDITION OF THE PROSTATE IN OLD AGE, FOUNDED ON THE DISSECTION OF ONE HUNDRED SPECIMENS IN INDIVIDUALS OVER SIXTY YEARS OF AGE. By *John Cockburn Messer, M.D., R.N.*, Assistant Surgeon to the Royal Hospital, Greenwich.—In order to facilitate the consideration of the details of one hundred dissections of the prostate after the age of sixty, the author had arranged them into three classes, namely—

First. Those under four drachms weight.

Second. Those between four drachms and six drachms weight.

Third. Those over six drachms weight.

By so doing a broad division is at once made between those that are comparatively healthy—namely, the first and second classes—and those that are so altered as to be likely to affect the health of the patient, comprised in the third class.

In the first class there are twenty cases, giving—

	Minimum.	Maximum.	Medium.
Age	60	94	76·2
Weight	4 drachms.	6 drachms.	4 drachms 57 grains.

These cases, for the most part, differed from the normal state only in point of size, and offered no obstruction to the flow of urine. The presence of small black concretions was very general in these as well as in all the other cases. In four cases there were slight appearances of the formation of circumscribed tumors. In one case abscess was found associated with stricture of the urethra.

In one the posterior lobe showed a tendency to enlargement; but it was difficult to say whether the enlargement was more intimately connected with the prostate or with a fasciculus of the muscular coat of the bladder.

In the second class are forty-five cases, which may be considered normal in condition, and which give—

	Minimum.	Maximum.	Medium.
Age	60	94	76·2
Weight	4 drachms.	6 drachms.	4 drachms 55 grains.

None of these cases suffered from urinary obstruction connected with the prostate during life, although the bladder was often found fasciculated. In twelve of these, circumscribed tumors were observed, for the most part only slightly developed; in three, the posterior lobe was slightly enlarged; in one, abscess was present, the consequence of general paralysis.

In the third class are thirty-five cases, which give—

	Minimum.	Maximum.	Medium.
Age	60	87	75·2
Weight	6 drachms 15 grains.	48 drachms.	15 drachms 2 grains.

In seventeen of these, the enlargement affected both lateral and posterior lobes; in fourteen, the enlargement existed chiefly in both lateral lobes; in one, the enlargement affected only the left lateral and posterior lobes; in one, enlargement preponderated in the left lateral and posterior lobes; in one, enlargement preponderated in the left lateral lobe; in one, enlargement preponderated in the posterior lobe. Thus it appears that 35 per cent. of all prostates after the age of sixty are abnormally large, 20 per cent. are abnormally small, and 45 per cent. are within the limits of the normal weight. This enlargement is principally caused by increase of the fibrous element of the body; the glandular also being increased in amount, but not to the same degree. This new fibrous tissue is deposited in concentric layers, and so forms circumscribed tumors. The frequency of this fibrous deposit is shown by the fact that it was present in thirty-four out of thirty-five cases of enlargement, in twenty-seven of which it was found in the form of tumors; in seven there was no appearance of tumors. It also appears that those glands in which the tumors are marked are liable to the greatest enlargement, as some thus affected were found to weigh thirty drachms, and even forty-eight drachms, while those in which the tumors did not appear never weighed more than seventeen drachms.

A comparison of the relative frequency of enlargement of the different parts of the gland shows that the lateral lobes are much more liable to be affected than the posterior: thirty-four of thirty-five cases were affected in their lateral lobes, while only nineteen of the same number were affected in the posterior lobe. It is rare to find the posterior lobe enlarged while the rest of the gland is normal; only one such case in thirty-five was found. Enlargement of the posterior lobe is the chief cause of obstruction to the flow of urine; but that may also be the consequence of hypertrophy of the lateral lobes, especially when it takes the form of tumors, and they project inward upon the urethra.

It appears, from the nearly equal average age in all three classes, that the condition of the prostate does not materially affect the longevity of the individual. A slight difference does, however, exist in favor of those in whom the gland is most nearly normal, the average in these being 76·2, and in the enlarged 75·2.

The presence of abscess in the prostate produces enlargement to a greater or less extent, seldom, however, to the same extent as fibrous deposit. The most frequent cause of abscess in the prostate appears to be obstruction to the flow of urine, either from stricture of the urethra, enlargement of the prostate, or the consequence of paralysis of the bladder. The frequency of abscess in the enlarged gland is in the proportion of five in thirty-five; in those between four drachms and six drachms, one in forty-five; in those under four drachms, one in twenty. The causes in these cases were—stricture of urethra in three cases; frequent retention in three cases; paralysis of bladder in one case. Tubercle is the only other abnormal deposit giving rise to enlargement of the prostate noticed in these cases, and that only in one case, which weighed twenty-four drachms. A similar deposit was observed in the lungs, right kidney, and mucous coat of the bladder in this subject.

It is worthy of remark that while retention of urine, more or less complete, is the most important symptom and consequence of enlarged prostate, it is not found in every case. The proportion of men in advanced years suffering from the consequences of enlarged prostate is indeed small. Thus among sixteen hundred old men, with an average sick list of two hundred, not more than ten are under treatment for this disease, and half of these only occasionally. A much larger number must be affected with enlargement, as shown by post-mortem examinations of the gland. In thirty-five cases of enlargement found after death, thirteen suffered no urinary symptoms during life, and two others only after the occurrence of serious leisons to the nervous system shortly before death. Although many of these cases were not greatly enlarged, some of them plainly showed that the prostate may be greatly altered, and yet the patient be free from urinary obstruction, as in one case, where the prostate weighed eight drachms thirty grains, with prominent enlargement of the posterior lobe; in another, which weighed nineteen drachms thirty grains, with general hypertrophy and great encroachment on the urethra; in another, which weighed twenty-six drachms thirty grains, with the enlargement principally seated in the lateral lobes.

On considering the favorable circumstances for the formation of phosphatic calculi in cases of enlarged prostate, it is surprising that these concretions are not more frequently found. Of the thirty-five cases of the third class, phosphatic calculi were found in two, the largest weighing seven drachms forty-five grains; in another, two uric acid calculi, of about thirty grains each, were found.—(*London Lancet*, May 19, 1860.)

OBSTETRICS.

ON IODINE INJECTIONS IN OVARIAN CYSTS. By *Professor Scuh.*—The primary action of iodine injections on ovarian cysts is remarkably variable; and that not only according to the quantity and dilution of the tincture, the amount of the still remaining contents of the cysts, and the peculiarities of the individual, but also according to the condition of the cyst itself as regards its thickness, solidity, its connections with surrounding parts, its surface, and the abundance or scarcity of the supply of vessels—leading to the greater or less stimulation of the cyst, and hastening or delaying the passage of the injected material into the blood, as well as its influence on the nervous system. The peculiarities of the walls of the cyst due to their permeability, and their capability of exosmose and endosmose, cannot be determined beforehand with any exactitude, not only in different patients, but even in the same patient, in case of repetition of the injections—changes being determined in the texture of the sac which cannot be appreciated. A certain quantity of the tincture, which on the first occasion scarcely exerted any local or general influence whatever, may on a repetition of the injection give rise to the most violent and dangerous symptoms. This is the more extraordinary because the same disparity of effect is not observed in other affections in which iodine injections are employed, *e.g.* ascites, abscess, thyroid cysts, enlarged bursæ, etc.

The author has studied the primary effects of injections on fifteen occasions. Sometimes there is no pain or tenderness on pressure; or if the latter exists to some extent, it only lasts for a day or two, the iodine freely passing into the urine from the commencement. Sometimes severe pain is produced at the time of the injection, which persists with exacerbation, or it only first comes on some time after the operation. At the same time a great change in the general condition is noticed—restlessness, vomiting, sleeplessness, faintness, and rapidity of pulse being among the symptoms. In some cases the pulse remains unchanged, but great alteration has taken place in the countenance. In other instances the pulse is very small and feeble, as well as rapid, the extremities are cold, and consciousness is temporarily lost—alarming symptoms that may continue for several hours or a day, and then gradually cease. Not only is iodine found in the urine a few minutes after injection, but likewise in the saliva and in the vomited matters; this iodine reaction being exhibited for from four to twelve days, although the other symptoms have usually terminated earlier. In some cases the primary influence seems to be expended on the cyst and its vicinity, since great pain and tenderness arise, to be followed by shivering and heat, indicating either suppurative inflammation of the cyst, or the development of a dangerous peritonitis. There can be no doubt that the symptoms of poisoning above mentioned arise chiefly from the rapid passage of the iodine into the blood; but although the nervous system may be principally affected, through this, its becoming so so rapidly in some cases also indicates a primary action of the iodine upon it.

The *indication for the iodine injection* is the existence of a unilocular globular cyst which has not reached too great a size, having but thin walls, presenting an equal resistance at all points, and containing thin, serous fluid. In order the better to judge of these points, a preliminary puncture of the cyst should always be made, discharging the contents as far as possible. The manner in which this preliminary puncture is borne—*i.e.* with respect to the amount of irritation produced—will give some idea as to the quantity and concentration of the fluid which is to be hereafter injected. This injection should be proceeded with as soon as the fluid has collected again in sufficient quantity for a puncture to be made without risk of injury to the intestines, it being by no means desirable to wait until the tumor has reacquired its former volume. When after the preliminary puncture a large mass is still left behind, we may conclude either that the walls of the cyst are thick and vascular, that there are multiple cysts, that there are villous or other pediculated growths from the inner wall, or that the cyst is interwoven with fibrous or other parenchymatous structure. These circumstances diminish greatly the chance of success, or they prohibit the performance of the injection. In some rare cases, indeed, in which two or three cysts have existed, the injection of the largest of these has sufficed for a cure; the iodine, through the operation of endosmose or exosmose, exerting its influence upon the smaller cysts; or the smaller cysts having become perforated through the larger, the remedy thus gains access to all. But upon such exceptional instances the surgeon cannot count. In very large cysts, by which great traction of the viscera, dyspnœa, etc., have been induced, and in cysts exhibiting irregularities of surface and indurations, which may arise from the aggregation of numerous cysts, or from the presence of fibrous, carcinomatous, or other degenerated masses, the idea of the injection should be entirely abandoned. It would only lead to a more rapid growth, or give rise to suppurative inflammation. When the puncture gives issue to a thick, almost gelatinous fluid, this indicates a condition of the walls of the cysts not easily influenced by iodine. It is very rare for such fluid to become thinner and more serous on subsequent punctures.

The fluid to be injected should amount to from two to six ounces, consisting of tincture of iodine diluted by from one to eight parts of water, adding a scruple of iodide of potassium. As the extent of its stimulating power cannot be always foreseen, it is best, especially on the first occasion, and when the cyst has been nearly emptied, not to employ it too concentrated. The desirableness of preventing access of air during the injection is obvious: and the canula and tube affixed to the syringe are best made of platinum, this being the metal upon which iodine exerts least action. The fluid is not to be allowed to run out again; but should very severe pains follow immediately after the injection, some water should be thrown in, in order to effect dilution. The stimulation of the cyst by the iodine usually leads to an inflammation which is limited to the walls of the cyst. The serous exudation is increased, and the tumor in a few days reacquires the size it had prior to the operation. After then the size again gradually diminishes, and it is a very favorable sign when with such diminution in size an increase of resistance or an actual induration is perceived. This latter condition is due to coagulation of albuminous matters induced by the iodine, and these are often so thick that a repetition of the puncture at this period gives issue to no fluid, or only a very small quantity. After weeks or even months further changes take place, in virtue of which the coagula disappear, and the contents of the sac again become serous. As long as any diminution in the size of the tumor is observed, however slow in progress this may be, no repetition of the operation should take place; nor should such repetition be put into force as long as any considerable tenderness on pressure remains. It is indicated when the inflammatory condition has been quite transitory, and when the enlargement takes on an increase or remains completely stationary for longer than six weeks. In some cases the repetition may be necessary from two to six times. When from the entrance of air, or other cause, foul suppuration, with extrication of gas, is engendered, and there is tenderness on pressure, fever and loss of strength, a simple puncture should be made, and a catheter left in or the aperture enlarged. In all such cases a most careful cleansing of the cavity by means of repeated injections of water or decoction of bark should be effected. It has been said that by repeated iodine injections the contents of a cyst may be converted from a purulent to a serous fluid; but in this statement the author puts no trust, a similar result never being produced by injection of abscesses.

The statistics of the results of iodine injection are given very differently by different authors. This seems to have arisen more from the mode in which the cases were chosen, and the degree of exactitude with which they were reported, than from trifling differences in the operative procedure. The author can only speak personally respecting six cases for which fifteen injections were employed. In only one of these did complete recovery take place, and that after a second injection. It was the only one of the six which united all the conditions necessary to secure a favorable issue. In a second case the cyst was bilocular, and a slight diminution of its size only resulted from five injections. The others were multilocular cysts, or the cysts contained a thick, gelatinous fluid—constituting cases which were, according to the author's present conviction, unsuited for iodine injection. In two of them no essential change was produced, and in the others the end of the patient seemed to have been hastened, partly through the speedy repetition of the operation, and partly through suppurative inflammation and peritonitis being induced.—*Zeitschrift der Aerzte zu Wein*, 1859, No. 48.—(*Medical Times and Gazette*, June 16, 1860.)

PRACTICE OF MEDICINE.

ON THE RATIONAL TREATMENT OF DELIRIUM TREMENS. By *Professor Dunglison*, of Philadelphia. In a letter to *Professor Laycock*.—[In the *Edinburgh Medical Journal* for October, 1858, I gave a series of cases of delirium tremens, all treated successfully without opium or alcoholic stimuli. I showed, too, that the delirium and sleeplessness indicate comparatively harmless conditions of the nervous system; that they are usually symptoms of some disease occurring in persons of drunken habits; that they usually cease within a given time, spontaneously; and that the proper method of cure is to treat the general or particular morbid state, whatever that may be, with which the delirium is associated. I further showed that opium and alcoholic stimuli, as generally recommended for this disease, were not only useless, but dangerous drugs. The paper has attracted considerable attention both at home and abroad, and will, I trust, have a beneficial effect in the management of this class of cases. The subjoined letter, addressed to me by Professor Dunglison, seems so well calculated to advance this object, that I have ventured to publish it. And I feel the more warranted in doing this, because it is simply an act of justice to Professor Dunglison, inasmuch as it proves that he was among the earliest advocates of a more rational method of treatment of delirium tremens.—T. L.]

PHILADELPHIA, *February* 21, 1860.

DEAR SIR:—Some time ago I had contemplated expressing to you the satisfaction I felt in perusing the views you entertained on the subject of the treatment of delirium tremens, of which I had, at one time, an opportunity of seeing much in the wards of the Philadelphia Hospital attached to the extensive Almshouse of this city, and containing upwards of 2000 inhabitants; but circumstances withdrew my attention from the subject, until it was revived by an article in a late number of the *British and Foreign Medico-Chirurgical Review*, and by Dr. Inman's recent work, entitled *Foundation for a New Theory and Practice of Medicine.*

It has been not a little gratifying to me to find that, without having seen what I have written on the subject, you should have arrived at results so nearly corresponding with those of my own observation. In the *American Medical Intelligencer* for May, 1842, of which I was editor, I inserted the following article, "by the Editor."

On the Eclectic Treatment of Delirium Tremens.—In a recent work, *Practice of Medicine*, vol. ii. p. 346, Philadelphia, 1842, we have stated that the course pursued by us in the treatment of delirium tremens has been entirely eclectic, in many cases expectant, and that the results have been such as to satisfy us. Under the view which we entertain of the nature of the affection—that the irregularity of nervous action is usually induced by the withdrawal of an accustomed stimulus, and that the recuperative powers are generally entirely sufficient to bring about the necessary equalization—we have treated the mass of the cases which have fallen under our care without either excitants proper, or opiates. In the first instance, an emetic is given at times, if the patient is seen while laboring under the effects of a debauch, or any particular reason exists for its administration; and afterwards, a state of tranquillity in the chamber is enjoined—the intrusion of too much light and noise being prevented; and, when the stomach will retain it, gently nutritious and easily digestible diet is prescribed, the bowels being kept open by gentle cathartics;—and this has comprised the essential part of our treatment. In time the hallucinations have disappeared, sleep has returned, and entire restoration supervened. The preceding remarks are a proper prelude to the statistical account of the Women's Lunatic Asylum, at the Philadelphia Hospital, for the years 1840 and 1841, which is under our charge during the six months commencing on the first of November and ending on the first of May, and under that of Dr. Pennock for the other half of the year. It may be proper to add, that since November 1, 1841, to the present time (May 1, 1842), not a drop of alcoholic liquor has been used in the treatment of delirium tremens in the Women's Asylum, although some severe cases in the third stage have occurred, which, notwithstanding, terminated most satisfactorily.

Patients admitted into the Women's Lunatic Asylum of the Philadelphia Hospital.

YEAR 1840.

	Cases admitted.	Cured.	Died.
Intoxication	25	25	...
Delirium Tremens, 1st stage	34	34	...
" " 2d stage	10	10	...
" " 3d stage	4	3	1

The fatal case was not seen by us. The patient died on the morning after her admission into the hospital, and had been treated in the city for nearly a week previously.

YEAR 1841.

	Cases admitted.	Cured.	Died.
Intoxication	19	19	...
Delirium Tremens, 1st stage	21	21	...
" " 2d stage	9	9	...
" " 3d stage	6	6	...

In the third edition of my *Practice of Medicine*, (Philadelphia, 1848,) I state further: "A more recent authentic abstract of the number of patients admitted into the same asylum, from the 1st of November, 1844, to the 4th of February, 1845, exhibits that thirty-two cases were received, eighteen of which are classed as intoxication. Of these not one died. The treatment here again was eclectic, often expectant, and not a drop of alcohol was given."

The results of the above plan of treatment were referred to some time ago, in an interesting pamphlet on *Rational Medicine*, by Professor Worthington Hooker, of New Haven; but as I had doubts whether either the *Medical Intelligencer* or my *Practice of Medicine* is in the libraries of Edinburgh, I have copied from them what bears on the rational view which you have embraced of treating delirium tremens. As I have remarked in the latter work: "It has, in the first place, restored the individual to health, not, perhaps, as rapidly as either brandy or opium, but more permanently. The term 'restoration to health' is hardly, indeed, applicable to the change effected by the former remedy. The patient is merely placed in the condition in which he was before the stimulus was withdrawn; and as he was 'restored' by the brandy, he is apt, as before remarked, to regard it as indispensable to his healthy condition. In the 'total abstinence' plan, however, the habit of drinking is broken in upon; and even if it should require a short time longer to restore the individual, there is the consolatory reflection, that delay is not useless, and every day's privation of the wonted stimulus diminishes the feeling of necessity, and the desire for it. One evidence of the good effect of the course is, that they who are dismissed cured rarely or never return to the wards. This is an observation that has been made at the Philadelphia Hospital; and as it concerns paupers, it is probable that the cures are real and permanent, for, were it otherwise, they would, in subsequent attacks, be compelled, in their destitution, to seek the wards of the same excellent charity."

Pardon me, I pray you, for this long detail, which I hope may not be without interest to you, and believe me, with great respect, yours truly,

ROBLEY DUNGLISON.

Editors' Table.

THE GOLD-HEADED CANE. III.—In continuing our notices of the autobiography of the gold headed cane, we come to its third possessor, in the person of Dr. Askew, who had always entertained for Dr. Mead a sort of filial veneration. Of the early scholarship of Dr. Askew some idea may be formed, from the fact of his having dedicated, when a student at Leyden, his specimen of an edition of Æschylus to Dr. Mead. He was, also, a large collector of books; and at the sale of the library of his distinguished predecessor and friend, just named, he was one of the most eager of the *emptores literarii*. Not content with possessing himself as much as possible of his Greek manuscripts, books, statues, and other curiosities, he contrived to preserve the lineaments and perpetuate the memory of Dr. Mead, by procuring the eminent sculptor Roubiliac to make a bust of him. The gold-headed cane avers it to be a life-like work of art. Dr. Askew was so pleased with the execution of the bust that, although he had previously agreed with the sculptor for £50 sterling, or $200, he offered him double this sum, but, to his astonishment, "the sordid Frenchman exclaimed it was not enough, and actually sent in a bill for £108 2 shillings." This demand, even to the odd shilling, was paid; and Dr. Askew sent the receipt to Hogarth to produce at the next meeting of artists. Little did Roubiliac think of the danger he was in of being "damned to everlasting fame," by falling into the hands, or rather forming a subject for the pencil, of the satirical painter. But we anticipate.

Dr. Askew was absent three years from England, during which period he traveled in different countries, at a time when traveling was an unusual thing, and not, as at the present day, when English and American women visit Egypt and the Nile, traverse the desert and roam over Palestine, as, but a few years before, their mothers had thought it quite a feat to do over France and Italy. He visited Hungary, and resided at Athens and Constantinople. One of the immediate results of his travels was the excellent opportunity it afforded him of collecting books, manuscripts, and inscriptions. At Paris, on his way home from his Eastern expedition, he laid the foundation of his library, which became afterwards so celebrated. Of whom among the ancient and wealthy physicians, even of London and Paris, not to speak of Boston, New York and Philadelphia, can the biographer draw at the present day such a picture as the following, in matters of refined hospitality, book collections, and scholarship?

"Our house in Queen Square," says the gold-headed cane, "was crammed full of books. We could dispense with no more. Our passages were full, even our very garrets overflowed; and the wags of the day used to say, that the half of the square itself would have done so, before the book appetite of Dr. Askew would have been satiated.

> "We saw a great deal of company, attracted as well by the abundant luxuries with which my master's table was furnished, as by the classical conversations and learned accounts of curiosities which he had brought with him from his very interesting travels in Greece. Among the literary people who were most frequently there, I may mention Archbishop Markham, Sir William Jones, Dr. Tanner, Demosthenes Taylor, and Dr. Parr. By these distinguished persons Dr. Askew was considered as a scholar of refined taste, sound knowledge, and indefatigable research into everything connected with Grecian and Roman learning. As a collector of books he was the first who brought bibliomania into fashion; and no one exhibited his various treasures better than himself. The eager delight with which he produced his rare editions, his large paper copies, his *glistering gems* and *covetable tomes*, would have raised him high in the estimation of the Roxburghe Club."

Most of the foreigners who came to London were received at Dr. Askew's house. Among them was a Chinese, named Chequa, who, as a mark of gratitude for the attention and kindness he had received, requested permission to take, before his departure from England, a model of the doctor in his robes. This was readily granted, and we, says the gold-headed cane, sat to the stranger.*

Dr. Heberden.—Among the contemporaries of Dr. Askew was a physician who had settled in London two years before him, and who rapidly got into great business, which he followed with unremitting attention above thirty years. This person was Dr. William Heberden, who was the first to suggest to the College of Physicians the publication of its Medical Transactions, to which he contributed several papers, as he did to the Philosophical Transactions of the Royal Society. His most noticeable and truly memorable work was, "Commentaries on the History and Cure of Diseases," published in the seventy-third year of his age.

> "But though rendered eminent by his talents as a physician, he conferred a more valuable and permanent lustre on his profession by the worth and excellence of his private character. From his early youth Dr. William Heberden had entertained a deep sense of religion, a consummate love of virtue, an ardent thirst after knowledge, and an earnest desire to promote the welfare and happiness of all mankind. By these qualities, accompanied with great sweetness of manners, he acquired the love and esteem of all good men, in a degree which perhaps very few have experienced; and after passing an active life with the uniform testimony of a good conscience, he became a distinguished example of its influence, in the cheerfulness and serenity of his latest age."

An incident is related in the little volume now before us, happily illustrative of Dr. Heberden's practical piety. Many would have given advice not to publish an obnoxious treatise, but very few would have been willing to back this advice by a pecuniary grant out of their own private purses. After the death of Dr. Conyers Middleton, who was the author of an attack on the dignity of physic, so successfully repelled by Dr. Mead, his widow called on Dr. Heberden with a view of consulting him respecting a MS. treatise of her late husband on the inefficacy of prayer.

> "Heberden having perused the MS., told the lady that, though the work might be deemed worthy of the learning of her departed husband, its tendency was by no means creditable to his principles, and would be injurious to his memory; but as the matter pressed he would ascertain what a publisher might be disposed to give for the copyright. This he accordingly did; and having found that £150 sterling ($600) might

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* The model is about 12 inches high, and is of unbaked potter's clay.

be procured, he himself paid the widow £200 ($800,) and consigned the MS. to the flames."

The gold-headed cane, after the death of Dr. Askew in 1774, passed from his hands into those of Dr. David Pitcairn. There were three Pitcairns eminent in medicine. Archibald was made a professor of physic at Leyden, toward the close of the seventeenth century (1691.) He ranks among the physico-mathematical school, and is author of several dissertations, viz., on the circulation of the blood; the quantity of the blood; the motion of the stomach; the problem of inventions; circulation of the blood in both animals and embryons; concerning the cure of fevers by evacuation; acids and alkalies in the cure of distempers, etc. etc. Dr. Wm. Pitcairn took his degree of doctor of medicine at Oxford, on the day (April 13, 1749,) when the Radcliffe Library was opened with great solemnity. In the following year his name was transferred from the list of licentiates into that of the fellows of London College of Physicians. He practiced physic for nearly half a century, and was for several years president of the college.

Dr. David Pitcairn, successor to the possession of the gold-headed cane, was elected physician to St. Bartholomew's Hospital before he took his doctor's degree at Cambridge. His private medical practice dates from 1780. By the death of Dr. Warren he was placed at the head of his profession in London. He resided many years in Lincoln's Inn Fields, and was early admitted a Fellow of the Royal and Antiquarian Societies.

"I will endeavor," says our gold-headed autobiographer, "to describe one of the most remarkable evenings spent at a meeting of the first of these learned bodies.

"In the time of Dr. Mead, the Royal Society met in one of the Professor's rooms at Gresham College; and many of the members used to dine at Pontac's in Abchurch Lane. The house was kept by a Frenchman who had been cook to Mr. Pontac, president of the parliament of Bourdeaux; and who, from respect to the memory of his master, hung up his effigies as the outward sign of his place of entertainment. Since the apartments in Somerset House were allotted to the meetings of that scientific body, *the Club*, which consists of the more select of the Society, have for many years dined at the neighboring tavern—the Crown and Anchor—where, at half-past five o'clock, on each Thursday previous to the sitting of the Society, you are sure of meeting with very indifferent cheer, but excellent company. On the 7th of April, 1791, I accompanied Dr. Pitcairn to the tavern, and met there Prince Ponitowsky, who had been invited as a guest. Sir Joseph Banks was in the chair. His highness appeared about fifty, had a good face, was of middling stature, was dressed in black, had the order of Malta in his button-hole, and wore his hair in a round curl."

Our wooden narrator becomes garrulous, and we shall pass over some of its small-talk, including the details of a dinner given by the Prince, who was brother to the king of Poland. His highness repeated a story which he had heard from the Archbishop of Canterbury:—

"It related to a dramatic writer whose play had been a good deal applauded, and who was informed that on a particular night a great philosopher and mathematician was to be present at its performance. 'This,' said the author, 'is the man for me. I shall long to hear what he says of my play. The opinion of such a judge will be really worth having.' The mathematician took his seat in the centre of the pit; and when the performance was over, the author was anxious to have his opinion of the piece. 'I find,' said the philosopher, 'that such an actress has pronounced 3284 words, and that such an actor has pronounced

2864,' etc.; and this was the only reply that the mortified dramatist could obtain."

The following, though it may seem to be extravagant and out of nature, is not without its pendants in real life:—

> "The Prince concluded his amusing anecdotes, and related to us that one of his brothers had engaged a Frenchman as a pastry-cook, but who was so drunken a fellow that a sentinel was always placed at the door to prevent his getting strong liquors before he had finished his work. At length, however, his frequent intoxication became intolerable, and it was necessary to discard him. He went to Dantzick, where he found a vessel bound to St. Petersburg, in which he embarked; and on his arrival in that city, accidentally heard of a nobleman, near Moscow, who was in want of a preceptor for his son. The *patissier* offered his services, was accepted, and traveled in an elegant coach to his destination. Of Italian, which he was to teach, he knew not a word; but being a native of Provence, he spoke the dialect of that part of France. This he taught to his pupil, and was for some time in great credit. But the nobleman having at length a visitor who spoke Italian, the impostor was detected, and he was ignominiously driven out of the family. For some months he rambled about Tartary, and lived on the hospitality of different hordes; but, after an absence of more than two years, finding his way back into Poland, he threw himself at the feet of his old master, and was again taken into service, upon promising better behavior in future."

The English reviewers sometimes twit American travelers for their over-readiness in publishing details of family life and private conversations in houses in which they have been received as visitors and guests. It would seem that this infirmity used to prevail among our older cousins themselves, nor have they entirely lost the habit at the present time. The Prince did not think very favorably of the English writing travelers, "*ces gouverneurs*," as he called them, who eagerly catch up everything they hear in conversation, for the sake of printing it. "The English Minister at Warsaw had observed to him, that he found himself oftentimes situated awkwardly enough with his raw young countrymen; but that this was nothing when compared with the trouble he had when they came accompanied with a traveling pedant as a tutor."

The conversation having turned on Russia, the Prince spoke of a certain courtier, who, when Biron was disgraced, said: "Ay, that fellow was the cause of my losing two of my teeth." "How so?" said somebody. "Why, because a dentist came here whom he patronized; and, in order to pay my court to Biron, I sent for that man to draw two of my teeth!"

To return from these *facetiæ* to Dr. Pitcairn. This eminent physician "was perfectly candid in his opinions; and very frank in acknowledging the extent of his confidence in the efficacy of medicine. To a young friend, who had very recently graduated, and who had accompanied him from London to visit a lady, ill of consumption, in the country, and who, on their return, was expressing his surprise at the apparent inertness of the prescription which had been left behind,—it being nothing more than an infusion of roses with a little additional mineral acid,—he made this reply: 'The last thing a physician learns, in the course of his experience, is to know when to do nothing, but quietly to wait, and allow nature and time to have fair play in checking the progress of disease, and gradually restoring the strength and health of the patient.'" His manner was simple, gentle, and dignified; and his kindness of heart led him to give more than mere routine attendance on his patients, by whom he was, in consequence, much beloved. "He associated much with gentlemen of the law, and had a taste for the fine arts." "His person was tall and erect; his countenance during youth was a model of manly beauty, and even in advanced life he was remarkably handsome."

It was reserved for Pitcairn, who had never published anything himself, to enlighten the profession by furnishing, in his own person, an example of a disease which, at the time, was regarded as entirely new, but which we would now speak of as one of secondary croup or diphtheria. Besides the ordinary symptoms of croup, Pitcairn had suffered from painful deglutition and partial swelling of the fauces. In its progress the voice was changed, became altogether suppressed, and the disease terminated in suffocation.

Dr. Baillie succeeded Dr. Pitcairn in the possession of the gold-headed cane, and to no small extent also in his practice. These two eminent physicians had long been on terms of the warmest friendship. But the time was passing away in which externals carried with them any weight as symbolic of professional position or merit. The autobiographer laments this change in the following terms:—

> "When I passed from the hands of Pitcairn into the possession of Dr. Baillie, I ceased to be any longer a necessary appendage of the profession, and consequently the opportunities I enjoyed of seeing the world, or even of knowing much about the state of physic, were very greatly abridged, and but of rare occurrence. Once only was I introduced into a large party. It was on a Sunday evening, when I was taken to one of the scientific meetings held at the house of Sir Joseph Banks, in Soho Square. How different from the gay conversaziones in Ormond Street, in the spacious library of Dr. Mead, filled with splendid books, and ornamented with antiques of the most costly description! On entering the house of Sir Joseph, I was ushered up a sort of back staircase, and introduced into two gloomy apartments, in the farther corner of the first of which sat the President of the Royal Society, wearing the red ribbon of the Order of the Bath, in a gouty chair. Here I was passed from one to the other, and considered rather as a curious relic than regarded, as I was wont to be, as the support and ornament of the faculty. My only consolation arose, as I was handed about, from the observation, which it was impossible not to make, that among the philosophers present there was a great proportion of medical men, who examined me, as may be supposed, with more than ordinary interest.
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> "From what had been stated of the condition to which I was now reduced, it will be inferred that it was chiefly from the position which I occupied in the corner of the room in which Dr. Baillie received his patients at home, that I became at all acquainted with what was going on in medicine.
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> "My present was the very reverse of my early master, Dr. Radcliffe. In person, Dr. Baillie was considerably below the middle size, with a countenance rather plain than prepossessing, a Scotch dialect, and blunt manners. Than his first address nothing could be less imposing; and yet before he had been in company with you for five minutes, he would have convinced you that he was one of the most sensible, clear-headed physicians you had ever listened to."

A few lines on his early training in medical studies will properly precede our remarks on the professional character of Dr. Baillie. His mother was the sister of John Hunter. From the University of Glasgow he went, in 1780, to Baliol College, Oxford, where he graduated: he then settled in London under the immediate superintendence of his other maternal uncle, Dr. William Hunter.

> "Following the example of his distinguished relations, he became himself a teacher of anatomy, in 1785; and he continued to lecture for nearly twenty years. In delivering his lectures, he expressed himself with great clearness, and conveyed his information to his pupils in the most simple and intelligible language. For this talent he was greatly

indebted to the assiduous instruction of his uncle, who spared no pains in cultivating in his young pupil a habit of ready and exact explanation; and was accustomed to teach him in this manner: 'Matthew, do you know anything of today's lecture.' demanded Dr. Hunter of his nephew. 'Yes, sir, I hope I do.' 'Well, then, demonstrate to me!' 'I will go and fetch the preparation, sir!' 'Oh, no, Matthew, if you know the subject really, you will know it whether the preparation be absent or present.' Dr. Hunter then stood with his back to the fire, and his nephew demonstrated. Thus was the young student encouraged by approbation and assistance, or immediately convicted of loose and inaccurate information."

Doctor Baillie, from his habit of public lecturing, had acquired two great advantages: first, a minute and accurate knowledge of the structure of the human body, which is not always possessed even by eminent physicians; and, secondly, a distinct arrangement in what has been appropriately called the art of *statement*. His examination of a patient, for the purpose of learning the symptoms of the complaint, was short, and seemingly in haste, judging from the small number of questions put; but in conversing on the case with the physician whom he met in consultation, his views expressed in brief, although short, were clear. It was only, however, when the friends and relations of the patient were admitted, and he proceeded to communicate to them the result of the consultation that he appeared to the fullest advantage. He then gave a short practical lecture, not merely on the symptoms of the disease, but on its nature generally, in which all that was known on the subject was brought to bear on the individual case; and in doing this, his utterance was so deliberate that it was easy to follow him. It is very obvious that if we admit this practice to be worthy of general imitation, it must be carried out with considerable judgment, and in a manner and to an extent proportioned to the intelligence and good sense of the persons addressed on the occasion. It will, of course, be objected to by the racing or very busy practitioner, who hurries from house to house, not giving himself time to make the requisite examination of the patient, nor, still less, to give the desired explanations.

Dr. Baillie was not a routinist. His maxim was, that the most successful treatment of patients depended upon the exertion of sagacity or good common sense, guided by a competent professional knowledge, and not by following strictly the rules of practice laid down in books, even by men of the greatest talents and experience. There must be an endless variety in diseases, growing out of a corresponding variety of constitutions; and a necessity for continual modifications of practice, to be made by a judicious physician. In his view of the case of a patient, Baillie selected the leading features, and, neglecting all minor details, he abstained from touching on anything which was merely ingenious, not to say subtle, or far-fetched. "Hence, in the treatment of disease, he was not fertile in expedients, but aimed at the fulfillment of a few leading indications, by the employment of the simplest means; if these failed, he was often at a loss what to do next, and had not the talent, for which some are distinguished, of varying his prescription every day, so as to retain the confidence and keep alive the expectation of the patient." After writing a prescription, he read it over with great care and consideration, for fear of having committed a mistake.

In the hurry of great business, his day's work, as he used to say, amounted to seventeen hours. Baillie was sometimes irritable, and betrayed a want of patience in hearing the tiresome details of an unimportant story. His reply to a lady, who had wound up a wearisome detail of her ailments, just before her going to the opera, by asking him whether, on her return, she might eat some oysters, "Yes, Ma'am, shells and all," has often been told, with sometimes the substitution of the name of Abernethy for that of Baillie. During his latter years when he had retired from all but consultation, he was deliberate, tolerant, and willing to listen to whatever was said to him by the patient. Contrary to the predictions of his early contemporaries, and, we may add, a still pervading belief among professional men, Baillie acquired business early by the credit of his work on Morbid Anatomy, from the date of its publication, in 1793. The most eminent men in surgery and midwifery, both in London and Paris, have been lecturers on Anatomy, and we see from the example of Baillie that a similar course of teaching is decidedly advantageous in the practice of medicine. But let it be well understood, that a knowledge of anatomy is only an aid, and never a substitute for a careful study of therapeutics and clinical observation.

In imitation of the immortal Harvey, Dr. Baillie gave, in his lifetime, the whole of his most valuable collection of anatomical preparations to the College of Physicians, and six hundred pounds for the preservation of the same.

Dr. Baillie had "looked through Nature up to Nature's God," and "the promises of the gospel, on the conditions explained by our Redeemer, were his humble but confident hope in life, and his consolation in death."

THE department of the REVIEW devoted to "Bi-monthly Abstracts," was instituted with the view of furnishing a comprehensive sketch of the most important contributions to medical periodical literature, both American and European. We have always regarded it as an interesting feature, and have been at considerable expense in placing it in the hands of gentlemen whom we have deemed competent to undertake the task of condensation — a task, we may remark, which, when properly accomplished, is never unattended with trouble and labor. We are glad to see that other journals, both Transatlantic and Cisatlantic, have considered our abstracts worthy of being copied, but regret that they have almost always failed to ascribe to us the credit which we think we honestly deserve. In scarcely more than a single instance do we find any recognition of the NORTH AMERICAN MEDICO-CHIRURGICAL REVIEW, as the source from which the condensed article was extracted. We have lately had presented to our notice half a dozen cases, in which the original journal, from which our own abstract had been carefully prepared, receives the full award, and in one instance, we notice that one of our abstracts is copied into another periodical, which received credit for it, when recopied, as if it were the original authority. We acknowledge a certain amount of gratification that this feature of our journal so frequently meets with attention, but fairly deserve, we think, some recognition of our own efforts to make this department a feature, and of the mode in which the work has been accomplished by the gentlemen to whom the labor of condensation has been intrusted.

SOCIÉTÉ D'ANTHROPOLOGIE DE PARIS.—We are pleased to learn that at a sitting of this society, held May 24, 1860, Dr. J. Aitken Meigs, of this city, was elected "Foreign Associate Member," upon the proposition of MM. Geoffroy St. Hilaire, Béclard, and Broca. The only other American, we believe, who has received this honor, is Dr. J. C. Nott, of Mobile.

PROFESSOR J. E. HOLBROOK has retired from the chair of Anatomy, in the Medical College of the State of North Carolina, and is succeeded by Dr. F. T. MILES, who is favorably known in Charleston as a private teacher of this branch.

MEDICAL JOURNALS.—In bringing the third volume of the *New York Medical Press* to a close, the editors announce that its publication will be discontinued. They have been compelled to take this step on account of important business and professional engagements.

Professor Weber has become associated with Drs. E. B. Stevens and J. A. Murphy, in the editorial management of the *Cincinnati Lancet and Observer;* while Drs. Stevens and Murphy hold the same relation to the *Cleveland Medical Gazette.* Notwithstanding this new arrangement, equivalent to a consolidation, each journal will retain its own name, and appear simultaneously at Cleveland and Cincinnati.

APPOINTMENTS TO THE PHILADELPHIA HOSPITAL.—At a meeting of the Board of Guardians, held on the thirtieth of July, the following appointments were made:—

Physicians.—Drs. J. Da Costa, J. L. Ludlow, C. P. Tutt, and O. A. Judson.

Surgeons.—Drs. S. D. Gross, D. Hayes Agnew, R. J. Levis, and R. S. Kenderdine.

Accoucheurs.—Drs. R. A. F. Penrose, L. D. Harlow, W. D. Stroud, and G. J. Ziegler.

At a meeting, held July sixteenth, Dr. S. W. Butler was re-elected Superintendent of the Insane Department.

HOWARD HOSPITAL.—Dr. S. W. Gross has been appointed one of the Surgeons to this institution, to take the Department of Diseases of the Genito-Urinary Organs, and Dr. Charles Neff has been appointed to the Department of General Surgery.

RADICAL CURE OF CONSUMPTION.—Dr. Guirette, of Lyons, is at the present time engaged in a series of experiments, in the wards of M. Piorry, at the Hôpital de la Charité, Paris, the recent seat of the quackery of the "Black Doctor," in order to test the value of a new treatment for the radical cure of pulmonary phthisis during its suppurative stage. This method, writes the Paris correspondent of the *Lancet,* "consists in the establishment of a fistulous opening through the integuments of the thorax and the pleura into the lung at the diseased part, and in the free admission of atmospheric air into the cavity of the abscess, which at the same time discharges its contents externally. Dr. Guirette was led to believe in the feasibility of such a plan by a pure accident. Having, at the hospital at Lyons, applied an issue to the chest of a phthisical patient, over the site of a cavity, and having inserted a pea in order to keep up the counter-irritation, this practitioner found that the foreign body had worked its way into the lung, and caused the pus contained in the abscess, which was a very superficial one, to escape at the artificial opening. The result, so far from being fatal to the patient, was so beneficial as to lead to complete recovery. He left the hospital apparently cured, and emigrated to Rio Janeiro."

"Since the occurrence of this case, Dr. Guirette has applied the penetrating cautery in three instances, and each time with the best success. Encouraged by this experience, he has come to Paris to submit his plan to public criticism; and although he has met with many rebuffs, is now enabled, by the kindness of M. Piorry, to plead his own cause, or rather that of his new system of treatment of this most incurable complaint. Operations have already been commenced; and a lad, aged about eighteen years, with all the symptoms of an abscess under the left clavicle, has been handed over to Dr. Guirette, who applied, on the third of June, a cautery of Vienna paste in the third intercostal space, toward the axilla. This, when the eschar falls, will be replaced by a pea attached to a thread of silk."

So far as the experiments have gone they appear to hold out promise of good results. An English medical gentleman has written to M. Piorry, relating a case of spontaneous formation of fistules during the last stage of phthisis. The prognosis in this case is favorable, and adds some support to Dr. Guirette's views.

We shall watch with interest the reports of the progress of the case, and in a future number place the results of this plan of treatment before our readers.

INTRODUCTORY LECTURES.—The different medical schools of this city will hereafter deliver only one general introductory lecture at the opening of their respective sessions. This year the lecture will come off on Monday, the eighth of October, the didactic course commencing on the following day.

AMERICAN MEDICAL BIOGRAPHY.—Lindsay and Blakiston will publish, early in October, a large and beautiful volume of memoirs of eminent American physicians and surgeons, under the editorial management of Professor Gross.

BIRTHS AND DEATHS IN PHILADELPHIA, IN 1859.—The total number of births in this city during the last year was 14,832, of which 7669 were males, and 7163 were females.

The number of deaths within the same period was 9742, of which 5160 were males, and 4582 were females. Of the above, deducting the still-born, of whom there were 658, there were males, of 20 years and upwards, 1917; under 20 years, 2508; of females, of 20 years and upwards, 1699; under 20 years, 2249. The above list comprises 1505 deaths by pulmonary phthisis; 544 by inflammation of the lungs; 520 by convulsions; 408 by cholera infantum; 366 by marasmus; 267 by typhoid fever; 234 by dropsy of the brain; and 330 by inflammation of the brain. The mortality from cancer was 132.

NECROLOGICAL NOTICES.

Dr. Charles E. Isaacs.—It is with feelings of the deepest sorrow that we are called upon to record the decease of Dr. Isaacs, whose loss will be greatly felt by the profession of this country. As a man of science, he ranked deservedly high; he was a thorough anatomist, an original and zealous investigator in physiology and pathology, and contributed largely to our medical literature. He was best known abroad and at home by his monograph on the structure and functions of the kidney, and from his researches on the pleura.

Dr. Isaacs was born in Westchester County, New York, in 1811; and at the age of twenty-one graduated in medicine at the University of Maryland. Early in life he evinced much interest in the study of the natural sciences, and cultivated, especially, botany and geology. He was appointed surgeon, during the administration of President Jackson, to accompany the Cherokees in their removal beyond the Mississippi; and in 1841 he entered the army, ranking first in his examination. He resigned his commission five years later, and, after moving about for several years, finally settled in New York, where he was soon appointed Demonstrator of Anatomy in the College of Physicians and Surgeons. He retained this post for several years, but resigned it to become Demonstrator and Adjunct Professor of Anatomy in the University Medical College. About three years ago, Dr. Isaacs moved to Brooklyn, where he died of pleuro-pneumonia, associated with Bright's disease of the kidneys, on the sixteenth of June, in the forty-ninth year of his age.

No man in the ranks of our profession was more universally beloved. In fact, it can truly be said that he left not an enemy behind him. Dr. Isaacs died too young. He saw before him an open road to eminence and fame, and with his industry, knowledge, and fixedness of purpose, had he lived, we doubt not that he would have proved to be a lasting ornament to the American medical profession.

Dr. Charles W. West expired on the fourth of June, in the forty-fifth year of his age, in consequence of injuries received from being thrown from his buggy. Dr. West received his medical degree at the Augusta Medical College; and soon after the completion of his studies sailed for Paris, where he remained more than two years. Upon his arrival in Georgia, he accepted the professorship of Chemistry, in the Augusta school, but on account of ill health was obliged to vacate his chair. Dr. West for several years lectured on Chemistry in the Savannah Medical College, an institution of which he was one of the founders.

Dr. Addison.—The late distinguished physician of Guy's Hospital, since last Christmas had been in bad health, and only recently he suffered from an attack of gall-stones. A trial in which he was engaged, and the death of his friend, the late Dr. Todd, so harassed him, that he fell into a state of melancholy, and on Friday, the twenty-ninth of June, he threw himself from a height at Brighton, and was instantly killed. At the time of his decease, Dr. Addison was about seventy years of age. He took his degree in 1815, and, removing subsequently to London, he received the appointment of House Surgeon to the Lock Hospital. In

1824, he was appointed Assistant Physician to Guy's Hospital, and, in opposition to the opinions of some of his confreres, he practiced and appreciated the principles of Laennec, and soon, by the skillful use of the stethoscope, became a proficient in the diagnosis of affections of the chest. In 1827, he began a course of lectures on Materia Medica, and probably received larger fees for his course than any other private teacher at that time in London. Ten years later he was appointed physician to the hospital, and, joining Dr. Bright in the Chair of Medicine, commenced conjointly with him the publication of a work on "Medicine," but one volume of which ever appeared, and the greater portion of that emanated from the pen of Dr. Addison.

Dr. Addison was particularly celebrated as a diagnostician, and although hardly belonging to his branch, he was considered authority upon the subject of syphilis. As a pupil of the distinguished Bateman, he soon became thoroughly acquainted with skin affections; and the beautiful wax models in the museum of Guy's Hospital certainly denote that he was an accomplished dermatologist. He was, moreover, a good pathologist, being in daily attendance at the dead-room up to two years before his death. As a writer he cannot be considered copious. His medical contributions are to be found mainly in Guy's Hospital Reports, and the most important of these pertain to pneumonia, phthisis, the cerebral complications of Bright's disease, and the fatty liver.

Dr. Addison's name will be perpetuated more particularly on account of a disease which bears his name, but which he termed melasma supra-renale. But few years have elapsed since he pointed out the connection between bronzed skin and disease of the supra-renal capsules, and we are glad to know that to this peculiar affection is given the name of morbus Addisonii.

DR. ROBERT C. WILLIAMS.—Dublin has recently met with a serious loss by the decease of this accomplished physician and surgeon, in the fifty-second year of his age. In 1836, Dr. Williams was appointed Professor of Materia Medica in the Royal College of Surgeons in Ireland, and two years later became one of the Surgeons of the City of Dublin Hospital. As a lecturer he was forcible and highly instructive, and by his kind and gentle manners he endeared himself to his pupils, patients, and the profession at large. Dr. Williams was an able writer, as is well shown by his many and varied contributions to the *British and Foreign Medico-Chirurgical Review*. He had been President of the Royal College of Surgeons of Ireland.

THE LATE PROFESSOR LIZARS.—In our last issue we announced the death of this distinguished surgeon, and promised our readers a short sketch of his life and medical services.

Dr. John Lizars was born in Edinburgh, and obtained his degree in 1808. He was the pupil of John Bell, and soon after his graduation he entered the royal navy, and held the post of surgeon for several years. Seven years later, he returned to Edinburgh, and was admitted into partnership with John Bell and Robert Allan, and began a course of lectures on anatomy and physiology; but in a few years he lectured on anatomy alone, and several years subsequently he also took up surgery. In 1831, Dr. Lizars received the appointment of Professor of Surgery to the Royal College of Surgeons of Edinburgh, and was also appointed Surgeon to the Royal Infirmary.

To Dr. Lizars is erroneously ascribed the operation of extirpation of the superior maxilla. The honor, however, of introducing this procedure is due to the late Dr. Jameson, of Baltimore, who, in 1820, was the first to remove the whole of the bone. Dr. Lizars was a popular lecturer, and a cool and dextrous surgeon. In fact, as an operator, he could not be surpassed. His contributions to anatomy and surgery are numerous; and he is better known by his "System of Practical Surgery," and the "Anatomical Plates." Besides these works, he wrote on the "Extraction of Diseased Ovaria," on "Stricture," on "Strabismus," and on "Club-foot."

THE CITY OF GLASGOW has recently met with a bereavement in the loss of DR. M. S. BUCHANAN, who was one of its most popular and successful surgeons and teachers. He graduated in Edinburgh, in 1818, and in 1829 was appointed Surgeon to the Royal Infirmary. Seven years subsequently he commenced to teach Anatomy in the Portland Street School, and in 1841 was made Professor of Anatomy in Anderson's University, a position which he held up to the time of his death. Dr. Buchanan was a most zealous and cultivated anatomist, as well as a popular clinical lecturer and good operator.

PROFESSOR TADDEI, well known as a chemist and cultivator of the natural sciences, died at Florence, on the twenty-ninth of May.

Bi-Monthly Bibliographical Record.

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FOREIGN.

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THE

NORTH AMERICAN

MEDICO-CHIRURGICAL REVIEW.

NOVEMBER, 1860.

Analytical and Critical Reviews.

Art. I.—*Die Brightsche Nieren-krankheit und deren Behandlung. Eine Monographie.* Von Dr. Fried. Theod. Frerichs, etc.

Bright's Disease of the Kidneys, and its Treatment. A Monograph. By Dr. Frederick Theodore Frerichs, Ordinary Professor of Medicine, and Superior of the Medical Clinic in Kiel. With One Copper-plate. Brunswick: F. Vieweg & Son, 1851. pp. 286.

Dr. Frerichs's treatise is one of those fine, complete, and well-rounded-off monographs which do so much honor to the German schools, and which are so much wanted, at least in a larger supply, among the Anglo-Saxons of both sides of the water. When a large amount of medical inquiry has been expended on a subject in great part new, few things contribute more to human improvement in the case, than a strict and honest abstract of all that is ascertained, divested of matter of parade, and omitting nothing really useful. Not only is this the case as regards the practitioner at the time, but for the service of him who wishes to extend medical science. From the work issued, a new start is taken. As Emerson, the mathematician, roughly remarks, "a man can easily see a great deal farther when mounted upon the shoulders of another;" he who has mastered a well-digested system can the more readily concentrate his industry upon special portions of the history which call for further development and examination; and science advances by a process demanding a less outlay of labor upon the examination of many volumes, at the risk, after all, of making unfortunate omissions. To do this, it is necessary that the abstract should be honest and complete, dictated by a love of truth and science, and not of display. To this category fully and unquestionably belongs the work before us. What a contrast to that ambition which would make science consist of a series of revolutions, usurp the labors of the past without acknowledging the obligation, labor to give limited or long-known things the aspect of fundamental novelties, and toil to shake the confidence of patients and students in what is already known, rather than to add valuable matter to the amount!

Of 286 pages, small octavo, filled with matter so rich as to defy condensation, we omit the preface. This is occupied with a view of the present state of medical inquiry, and the special reasons which led the author to the choice of this subject. To the latter we may add the frequency of the disease in the vicinity of his clinic.

In medical history, Dr. Richard Bright, of London, enjoys a peculiar glory; as the description of the disease in a great measure begins with him, little having been collected from previous authors, ancient or modern, yielding more than detached or vague indications of what was left for him to combine, compare, and render more exact and useful. Still the progress of knowledge seems, in approaching this, to have followed its usual laws, and prepared the way for the coming event. This required the agency of the man, equally inclined to make all use of the observations and comments of those who preceded him, and not to neglect attending to the wants of the sick and his own opportunities of better understanding what he saw.

Hippocrates and Galen express themselves on the subject in a manner entirely indefinite. "But where the kidneys cannot 'draw,' they cause the display of a sudden dropsical condition." Aëtius knew that hardening of the kidneys was accompanied with anasarca. Avicenna indicates the same thing; and adds, that in this state of things the urine is thin and small in quantity. Toward the end of the sixteenth century, openings of diseased bodies became more frequent, and the results were applied more rationally to the solution of pathological questions. Observations of maladies of the kidneys which appeared to be the groundwork of dropsical affections, became more numerous. Schenk, Bonetus, Lieutaud, and particularly Morgagni, describe cases which, with greater or less exactness, represent Bright's degeneration, including one or two of the more serious and remarkable of the symptoms.

At a much later period, the alterations which the urine undergoes in this condition of things received adequate attention. The examinations of the urine made by the older physicians were almost always confined to simple inspection; by which the presence or absence of substances of easy solubility, as albumen, etc., could not be determined.

Cotugno was the first who proved by experiment the presence of albumen in hydropic urine. Unfortunately, he misunderstood his experiment;

imagining that the albuminous matter arose from the dropsical fluids passing into the urinary cavities, and took the process for an effort of nature at a cure. Cruikshank first distinguished more accurately: he knew that albumen was present in the urine only in special kinds or dropsy. Our subject was investigated with far more accuracy and care by Wells, in the "Transactions of a Society for the Improvement," etc. He succeeded in indicating and establishing the almost constant presence of blood or albumen in the dropsy which succeeds scarlet fever; and that, at least in many cases, pain in the region of the kidneys and material alterations in the parenchyma of those organs accompanied the coagulable character of the urine. Shortly after, in 1813, appeared Blackall's treatise on Dropsy; in which he adheres to the distinction, previously raised by Cruikshank and Wells, between dropsy with and without coagulable urine, as a principle of classification; and this he illustrates by a series of cases. Yet Blackall ascribed the coagulability of the urine less to a condition of the kidneys, and much more to a general inflammatory disposition of the whole organization; in contrast with other forms of dropsy proceeding from local alterations confined to any viscus, as the liver, heart, etc. The albuminous contents of the urine were valid to him as an indication for venesection, and not as a sign of the degeneration of the kidneys.

Thus stood the matter when Bright published his justly celebrated labors in 1827, 1836, and 1840, and "procured for himself, although late, the general gratitude of physicians." The connection between dropsy and disease of the kidneys, on the one hand, and the presence of albumen in the urine during many forms of dropsy, on the other, were known in the general outlines of the facts; and a relation between disease of the kidneys and coagulability of the urine was at least indicated; but yet this was neither pointed out with precision nor extended to its theoretical and practical consequences. Bright acquired for himself the merit of first proving the internal connection of an explicitly characterized affection of the kidneys with albuminuria and dropsy, and pointing out the frequent occurrence of this combination of symptoms, which, from the present time forward, must be regarded as a special form of disease. He followed up and described the anatomical basis of the malady in its manifold and changing forms, portrayed in a masterly manner its essential and accidental symptoms, firmly established the diagnosis, and brought to light the most important causal impulses active in its production. Bostock, at the same time, attended to the needful chemical investigations, described the condition of the urine, and gave indications of the changes which take place simultaneously in the blood.

The new history became the object of much discussion. Christison and

Gregory extended the developments of Dr. Bright, and confuted the intimations of doubt by Elliotson, Copland, and particulary by Graves. "A prophet is not without honor save in his own country;" and the remark has often been made, that the reputation of Dr. Bright in Great Britain bore no proportion to the esteem and respect in which he was held on the Continent, and most of all in Germany. Christison distinguished himself as a partisan and fellow-laborer of the native genius, by establishing with accuracy the relations of the fluids, and pointing out the distinctive characters of the acute and chronic forms.

Our space will not allow us to enumerate the various recent writers, in many instances of great merit, on this disease, now become an open object for public criticism. The terseness of Dr. Frerichs's diction has compelled us to copy many of his words. We proceed to his account of the morbid anatomy.

He alleges that the descriptions of the cadaveric appearances given even by the best authors have not been made from a complete and coordinated system, explaining the manner in which the diseased appearances are produced, by a thorough comparison with each other and with the natural structure; and that writers have contented themselves with enumerating the different organic changes as so many species or varieties of the effects of the disease. He justly illustrates the imperfection of this method by imagining what would have been the result had the same procedure been adopted with regard to pneumonia or tubercular consumption, instead of seeking for the causes of the variety of forms encountered in the nature of the processes which had previously gone on in the part. If we understand him correctly, he claims to have been the first who arranged the anatomical phenomena of Bright's disease with a due reference to this causative and consecutive method.

The Malpighian body, according to him, is a cluster of loops of fine arteries, inclosed in a capsule of nearly spherical form. The orifice seems to have little regularity in its direction. In his pretty wood-cuts, it generally turns to one side; its zigzag tube of escape turning downward, after many windings in the cortex, to the nearest pyramid and calyx. The arterial twig which enters the corpuscle is accompanied by a corresponding vein; which, on its escape from the capsule, immediately joins a net-work of corresponding vessels, covering the adjacent capsules in a very intricate manner. These, Mr. Bowman has called, from comparison, "the portal system of the kidneys." They, of course, all terminate in the renal vein.

The structure permits a very large amount of blood to pass, with great rapidity, through the organ; and in doing this, to be pressed with very great force, in comparison with other arterial currents, against the sides of the little vessels; a point of importance to be recollected. The wide and almost straight arteries of the kidneys enable the blood to be impelled, with almost the whole force of the contractions of the heart, against the sides of the small arteries in the capsule. By the minuteness and intricate coils of these last, the resistance of considerable friction is offered to the escape of the vital fluid into the veins. According to the measurement of Mr. Mogk, in order to cause the blood to flow from the renal veins with an equable stream, he found it necessary to apply the pressure of a column of blood in a glass tube two metres in height. Poiseuille expelled the fluids through the same route by the pressure of 1835 millimetres of water.

It is natural to believe that the quantity of fluid that exudes through the sides of the capillary loops into the calyces, under this heavy pressure, might be very considerable. With all the recent researches into the cause of the selection of particular substances in the separation of this or any other secretion, it remains still unknown, and we shall not risk an opinion on the probability of our ever knowing better. With the modifying mechanical and chemical circumstances the case is different. The composition of the urine, when first secreted, must depend, according to Dr. Frerichs, upon the amount of the hydrostatic pressure within these vessels, and upon the nature, elasticity, and size of the pores of their lining membrane. Whether this composition is afterwards modified, within the tubes, by further exhalation, or by absorption, is also unproved. We may assume it for a certain point, that, in the natural state, no albumen, fibrin, or fat ever escapes by this route. For this fact, in addition to general experience, he cites the investigations made by Matteucci, Cima, and Brücke, on the diffusion of substances through animal membranes. Besides the modifying agents which we have enumerated, it is probable that much influence is exerted by mechanical packing of the veins, and by altered innervation of the capillaries, through direct or indirect routes. Under these circumstances, first albumen and then fibrin escape; and it is not necessary for the coats of the capillaries to be burst, and for blood to issue from the rupture.

The delicate clusters of looped vessels in the Malpighian capsules are the first and principal portion of the vascular apparatus that suffers in this manner; and, in some instances, the remaining capillary system of the kidneys escapes the change. These are principally the cases which arise from impediments to the circulation; mainly structural imperfections of the heart. Where the whole capillary system of the kidney is affected, the case generally arises from disordered innervation. It is in the coils of the Malpighian bodies that the heightened pressure of the column of circulating blood first takes effect; and this is productive of the effusions.

Fibrin seldom reaches the ureters in a liquid form, but generally coagulates in the earlier urinary passages; principally in the flexuous and involved tubes of the cortical substance. Of these tubes, they present manifest moulds or impressions, which are visible on examination of the muddy sediment of the urine. They are expelled in large numbers by the urine secreted in the capsules; and carry with them the scales of the epithelial lining of the tubes.

In other cases the coagula remain longer in place, and undergo various changes. The epithelial scales, being macerated in the exudation, become muddy in their appearance, are filled with fat globules, and finally decay into a fatty detritus, or shrink into irregular masses. If the coagula remain still longer in the canals, the secretion gradually ceases on the part of the glomeruli; from the impulsive force of the blood being equaled by the mechanical resistance of the coagula, which fill up the secretory tubes, adhere to their linings, and do not escape. Coagulation takes place within the capillaries, their cavities are effaced, the external surface of the glomeruli is covered with a finely granular coating, and they are at last obliterated. In consequence of the progressive formation of fibrinous coagula, and their separation and discharge, many urinary canals remain more or less completely deprived of their epithelium, gradually collapse, become atrophic, and finally disappear. Others remain filled with crumbling, fatty exudation, and become increased in size; and sections of these, on incision of the organ, stand out from the atrophied vicinity in the form of little tubercle-like masses, of sizes from that of millet-seed to that of hemp-seed, and are known as granulations. The volume of the kidney, which, as long as so great a portion of the urinary tubes was distended with the matter of exudation, appeared increased, gradually shrinks with the disappearance of the canals, and becomes atrophied.

If a portion of the fibrinous exudation is deposited in the interstitial textures, an occurrence which seldom takes place in considerable amounts, it either crumbles, so far as it has not been absorbed in a fluid condition, into a finely granular detritus, or it more or less completely organizes itself as connective tissue, (cellular membrane,) which then partly surrounds the Malpighian corpuscles in concentric strata, and partly forms a net-work between the urinary canals.

From these anatomical processes, Dr. Frerichs deduces three stages of the disease, in each of which exists a material difference of the morbid changes, and also of the symptoms.

1. The stadium of hyperæmia, with commencing exudation.

2. That of exudation and of the commencing changes of the exudation.

3. That of retrogradation of development, and atrophy.

First stadium. The kidney is enlarged, its volume and weight not unfrequently doubled; or the latter increased from three to four, eight, ten, or even twelve ounces. The surface appears smooth; the tunica propria is muddy, red, and injected, and easily torn from its attachments; and the superficial venous net-work distended and protuberant with black blood.

The principal seat of the enlargement is in the cortical substance. This is more or less of a dark, brownish red, is brittle and easily torn, and emits, from sections by the knife, a viscid, bloody fluid, with which the parenchyma is infiltrated. On the surface, and in deeper sections of the cortical substance, are found dark-red spots of a roundish or irregular form, which give the kidney a speckled appearance. The pyramids, which contribute but little to the increase in volume, are also hyperæmic; and the redness has a streaky appearance, from the distribution of the vessels. The calyces and pelvis ordinarily contain a turbid fluid, most generally tinged with blood, and their lining membrane is tumid and coated with vascular arborescences. The more intimate texture of the kidneys, independently of hyperæmia, exhibits no perceptible lesion. The venous plexuses of the cortical substance project from distention with dark blood (meaning, of course, in dissections or dilacerations.) In like manner, the coils of vessels in the Malpighian capsules are more visible and projecting than ordinary, from distention with blood. The capillaries Dr. Frerichs has not found widened, though repeatedly measured, of course micrometrically, and the circumference of the capsules did not exceed the normal average. Hemorrhagic effusions are frequently found, sometimes from the glomeruli, sometimes from the vascular net-work which surrounds the urinary canals, and sometimes, in fine, from the superficial veins of the cortical portion. The capsules and tubes are found fully distended with blood; and on the surface of the organ, the most regular of the round spots arise from over-distention and bursting of the superficial coils of these tubes. In hemorrhage from the vascular net-work, apoplectic centres of greater or less extent are found, which sometimes render the tubes impassable. The superficial veins furnish flat extravasations beneath the tunica propria, which penetrate the substance below to a greater or less depth.

The epithelial lining, in this stage, is not necessarily altered. The coagula are generally found distending the canals of the cortical substance; more rarely of the pyramids; and are generally best exhibited by submitting the fluid expressed from incisions to the microscope. Sometimes they are simple fibrinous moulds of the canals; pale, homogeneous, transparent cylinders; sometimes there are a few scales imbedded in them, and sometimes they exhibit blood corpuscles, more or less altered, scattered singly or in thick groups; and sometimes the canals are seen with their lining entire, sometimes deprived of more or less of it.

The above description is principally taken from acute and tumultuous cases, following scarlatina, or severe exposures of the body to cold. In the chronic form of the disease these changes proceed more quietly; but they are seldom subjected to anatomical inspection. The enlargement of the kidney is considerably less; and often not noticeable. That hemorrhages frequently occur, is evinced, on the one hand, by the mixture of blood with the urine, and, on the other, by the remains of apoplectic effusions, found on examining such cases when advanced to their later stages.

The diagnosis of this stadium is often difficult; and it may be confused with simple hyperæmia. A criterion on which we may rely, is the appearance of fibrinous or bloody coagula, forming moulds of the canals. When these are found, the diagnosis is practicable in strongly-marked cases; but slighter grades are generally overlooked.

The number of instances in which the first stage is subjected to examination is small. Of two hundred and ninety-two cases of individuals who died of this disease, the first stage was observed in only twenty.

Bright, Rayer, and Martin Solon, according to our author, viewed this disease in its real character. Johnson considers it as a desquamative nephritis, the most explicitly in contradiction with fatty degeneration, of which he makes a distinct form of disease. In this opinion Dr. Frerichs does not coincide; and he believes it more rational and conformable to the harmony of science to explain the fatty product as being, in most instances, a product of the changes which take place in the exudation, which are to be described hereafter.

In regard to the bloody specks, there is more variety of opinion. Rayer, Becquerel, and Rokitansky take them to be violently-injected Malpighian corpuscles. Our author deems it incredible that these bodies are dilated to the one-tenth of an inch. Bowman, and afterwards Goodsir and Johnson, showed that the effect was produced by the distention with blood of coiled and interwoven vessels. Toynbee believed he had shown that the Malpighian capsules were distended to this size, and gives a figure; but Bowman and our author think him in error.

Second stadium, or that of exudation and of commencing metamorphosis of the matter which exudes. The hyperæmic condition of the vessels abates; and the exudative process gains the upper hand. According to the causes of the disease, and the degree of violence of the circulatory derangement, the effusion is sometimes confined to the urinary tubes, and sometimes takes place in the interstitial substance of the kidneys, particularly in the cortical portion. Later begins the metamorphosis. While, within the tubes, the epithelial matter and fibrin together crumble into molecules, containing fat globules, in rarer cases, they organize themselves, and become converted into connective membrane, round the Malpighian capsules, and between the tubes. The kidney gradually loses its redness of injection, and becomes of a dull yellow. At first, streaks and stellated spots are still seen; later, they disappear. The volume of the organ remains increased, sometimes more than in the preceding stage; and its weight may reach six, twelve, or fifteen ounces; most frequently so when the exudation escapes into the interstitial texture. The kidney becomes soft and brittle, and a muddy, milky fluid escapes from sections. In these it can be seen that the increased bulk is derived principally from infiltration of the cortical substance. This descends deeply, and not unfrequently indents the bases of the pyramids, separates the tubuli from one another, and gives the cones an unraveled and tufted appearance. The thickness of the cortical part increases to eight or ten lines, and sometimes to an inch. (French.) Section of the cortical substance exhibits a pale, yellow color, in which we can here and there distinguish completely yellow, insulated spots of a ramified or roundish form. The pyramids strongly contrast with the pale, cortical matter, by their more or less dark red, which is only interrupted by insulated brighter streaks.

Injection of the kidneys, in this stadium, succeeds but very incompletely. The calyces and pelvis have their mucous membrane swollen, and of a smutty red.

Histological inquiry exhibits changes far greater than in the previous stage. The capsules, in part, retain their customary size; but the glomeruli are less conspicuous within them from being covered with fine granular matter. Contact with acetic acid makes this last transparent; and the coils of vessels are more directly seen. It is not uncommon to meet with them quite empty of blood. Another portion of the capsules are visibly enlarged. In these, between the glomerulus and the capsule, lies a thick coating of solid fibrinous exudation, of a granular character, and mixed with numerous fat drops. In some cases, crystals of cholesterine occur in them. Some of the vascular loops still contain blood, sometimes fluid, and capable of being impelled forward by pressure, sometimes in appearance coagulated, and of a dull, dirty-brown color. The observation of Simon, that the vascular coil lies all crowded together and flattened, in the fundus of the capsule, is seldom verified. Near the diseased capsules it is always common to find others unaltered in their apparent structure.

Few of the canals in the epithelial portion entirely escape alteration in the epithelial scales. In common, the lining stratum becomes denser and more resisting; but is filled with granular matter, abounding in fat drops. When this has made further progress, the cells lose their polyhedral shape, and become rounded, changing the most remarkably where the natural adhesion is the closest. Part of them change gradually into granular masses, subsequently decomposed into detritus. This process is essentially the same which Reinhardt describes in the mammary gland during pregnancy, in pneumonia, in the Graafian vesicles, in the epithelium, in fine, of all organs affected with hyperæmia and the process of exudation. Other epithelial scales are always found in the vicinity, which simply wither without infiltration, and are converted into a similar detritus, coarser or finer; and this may even choke up the tubes. Portions of tubes are found, which, in place of epithelium or its scales, exhibit nothing but stratified fat globules.

Another portion of the tubes exhibits homogeneous fibrinous coagula; some recent and colorless, others older and yellowish. The fibrinous masses are structureless, and contain copious fat globules, and sometimes blood-disks, some of their ordinary appearance, others shrunk and shriveled.

The canals are in part visibly dilated even to double or triple their ordinary dimensions, and acquire projecting sinuosities, interrupted by contractions, thus presenting an appearance of varicosity. Sections have the aspect of a congeries of round or oval cysts, of from one-fiftieth to one-twentieth of a line in diameter. Nuclei are often found within them, sometimes thinly dispersed, at others in rows or thick masses, covering the walls of the tubes. At other times, insulated, roundish cells appear; and many tubes contain merely a homogeneous fibrin, or a fine granular matter mixed with fat globules; while there is sometimes the appearance of an empty space in the middle, lined, as in the engraving given, with a thick coat of fibrin.

Professor Frerichs thinks Mr. Simon in error when he sets down the formation of cysts as an essential part of the alterations of structure in Bright's disease; and believes that the appearance we have just described has given rise to the error. Cysts, when they do occur, are ascribed by our author to the monstrous development of epithelial cells, which are liberated by the destruction of the tunica propria of the urinary canals, and are not extruded by the exudation.

The different combinations and relative degrees of intensity of these changes are too numerous to be catalogued. The increase of size and weight varies from fifteen ounces to very little more than the customary healthy amount. In general, acute and dyscratic cases furnish much greater increase in size, and chronic and indolent ones, particularly from impeded venous circulation, very little. In the latter category, the alterations are very liable to be overlooked, and imperatively require the microscope; it being indispensable to identify the fibrinous contents of the urinary tubes. The danger of error is the greater, as those kidneys which are not much increased in size are not much changed in color and other external peculiarities, the extent of these depending on the amount of exudation. Similar variety is produced by the successive changes in the matter which has exuded; and a very advanced stage in this alteration furnishes the "yellowish granular matter" of various English writers. This frequently becomes conspicuous in those Bright's granulations which project from the surface of the undivided kidney, which are composed, as we have seen, of masses of distended urinary vessels, and not of enlarged Malpighian capsules.

Mr. Frerichs found evidence of the second stadium of the disease in one hundred and thirty-nine dissections out of a totality of two hundred and ninety-two.

The principal appearances of the second stadium are well characterized and represented in plates by the earlier writers. They classified the differences in extent and progress of the various alterations as distinct forms of the disease; which Mr. Frerichs recapitulates, with references. Particular praise is given to Messrs. Bright, Rayer, Christison, Martin Solon, and Rokitansky. The accounts of the Malpighian corpuscles are various; but the results harmonize with the views of our author. Bowman, Johnson, Todd, and Henle did not find these bodies altered, and doubted the fact of this occurring. Johnson believed that their contents escaped by rupture; but this Mr. Frerichs believes he has shown to be impossible. Later observers, as Canstatt, Siebold, Toynbee, and Hessling, have agreed in the description which our author has verified, and which we have given above. Toynbee describes the afferent vessels and the glomeruli of the capsules as having been found by him enlarged to a size greatly exceeding that recorded by other observers. Mr. Frerichs thinks he may have mistaken urinary vessels, distended with blood or with matter of injection, for arterial capillaries.

The discrepancies with regard to the urinary tubules are not important; and principally refer to the constructions to be put on facts, and not to the facts themselves.

Third stadium, of decomposition, or retrograde development and atrophy. We want a good English word to express the first of these ideas. "Involopment," as contrasted with "development," which has been proposed, seems to us hardly enough characterized by habitual use or striking analogy, to prevent misapprehension or confusion in its employment. It is established by popular habit in a different meaning. So is "deformation," which contrasts with "formation." "Unmaking" has the best authority among old authors, but would be thought wanting in the dignity of science. Perhaps the best is "involution," which can be compared with "evolution."

The changes found in the third stadium are characterized by a more striking excess and variety; and more frequently startle the anatomical observer. It is among them, too, that the famous "Bright's granulations," so often spoken of as if they were the essence of the disease, are most numerous and conspicuous. The withering and great deformities which attract so much attention are of this stage.

A greater or smaller portion of the tissues of the kidneys disappears or is atrophied. The urinary canals, robbed of their epithelium, collapse; and at the same time the Malpighian corpuscles become crumpled together and shrunk. The basal membrane of the canals remains, but compressed into folds. In other cases, of rarer occurrence, where the effusion has largely taken place into the texture of the kidneys, the matter effused becomes organized into common connective (cellular) tissue, and afterwards undergoes the contraction of a *cicatrix*, forcibly compressing the Malpighian capsules and portions of urinary vessels around which it is effused.

The kidney frequently subsides to its customary dimensions, and often much below them; sometimes to the weight of three, two, or even one and a half ounces. The capsule of the organ is usually of a muddy-white color, and thickened in patches. It adheres firmly to the cortical substance, and is torn from it with difficulty, rarely without a portion of the substance of the kidney being separated with it; and often drags with it deep appendages, which leave furrows dividing the organ into lobes. The surface has lost its smoothness; and is uneven, and studded with minute tuberculiform projections. The granular protrusions on the surface are generally about the size of poppy-seeds or the heads of pins; and rarely, of hemp-seed or small peas. With the capsule in situ, the color of the organ is generally muddy yellow; the cicatricular retractions, commonly pale, in some parts bluish-black, from old extravasation of blood; but most frequently portions of organ are found which retain the natural brown color.

The kidney has lost its original brittleness; which is replaced by a leathery toughness that increases as the atrophy proceeds.

Sections, in general, exhibit a more or less considerable wasting of the cortical matter; this forming, in far-advanced cases, a mere border, of a few lines in width, round the bases of the pyramids. In other cases, where the exudation has been remarkably great, it may equal or exceed its natural size. In the thickness of the cortical matter, the same granulations as on the surface are still encountered, separated from each other by a pale, cicatricular tissue.

The pyramids are diminished in size, particularly at their base; but less atrophied than the cortex. Granulations are found interspersed between the straight vessels, near the base. The calyces seem wider, and their mucous membrane is puffy and of a grayish blue, and sometimes streaked with varicose vessels. The fatty mass round the kidneys increases with the wasting of the organ which it embraces.

Injections succeed very imperfectly, as many of the capillaries are impermeable; but dilated vascular branches, filled with dark blood, are not uncommonly seen upon the surface.

The progressive changes undergone by the exudation, and the atrophy of the urinary tubes and Malpighian capsules, are all apparent under the microscope. The tubes are either filled with the granular matter resulting from the decomposition which took place in the preceding stadium, or have partly emptied themselves. Well-marked epithelial scales, unaltered, or simply infiltrated with fat drops, are rarer; so are fibrous coagula. The principal contents of the irregularly protruding clusters of tubes are a uniform mass of protein granules and fat drops, but little altered by acetic acid. The atrophy of the tubes, in its various forms, meets the eye in the contracted spaces, in the puckered cicatrixes, in the parts surrounding the granulations, and in the deeper furrows produced by tearing. In these, the canals are nearly empty, collapsed, wrinkled and irregular in their outline, resembling an obscurely-fibrous mass. Still later, the fibrous character is only to be demonstrated by tearing the substance apart with the needle. They are to be here identified by a rigid outline, angular inflexions, and crumpled folds. Among them have been encountered distinct fibre cells, resembling those which produce smooth muscular fibre, and incapable of being discriminated from those found in the stroma of the healthy kidney.

Of the capsules, a few retain their natural size and appearance. Others are reduced to two-thirds or half their volume, and form globules or oval vesicles, more or less filled with fat drops. In detached instances, one-third of the capsule is filled with dark-colored spots, composed of crowded fat molecules. The vascular coils are buried beneath these matters, and difficult of detection. When the glomerule is exposed, by tearing the capsule, or pressing it to bursting, and then washing away the fat, it exhibits nothing more than a few pale, empty vessels, scarcely to be distinguished as such; and very often all search for the remains of this body is unavailing.

Where exudation matter occurs in the texture of the parts, and compresses the intervening points by contraction, besides the above changes, newly-formed connective or cellular substance is encountered. This is, in general, principally composed of elongated fibre cells, intermixed with which are fully developed fibrils; and both of them can be insulated and distinguished with certainty from the basal membrane of the canals. The capsules are enveloped in a coat of these, usually from one-seventieth to one one-hundredth of a line in thickness. Very commonly a portion of this matter is forced within the capsule, pressing upon the vascular loops, and insinuating itself between them. The tubes are closely embraced by the new connective membrane; and the intervening spaces can be shown by sections, of which the transverse answer best. In the larger intervals is sometimes seen a mixed mass, composed of the ruins of a number of urinary tubes, the capillaries of the interstitial tissue, and the newly-formed connective membrane, seemingly dissolved together in confusion; and sometimes fat drops are imbedded in them, singly or in rows.

The milder cases, in which the kidney is not remarkably altered in size, are frequently overlooked, especially by inexperienced observers. The changes in color and consistency are not calculated to strike the attention, and the granulations are little developed. From these to the most deformed kidneys, occur a great variety of intermediate degrees, which cannot well be all enumerated, and which do not call for it, as they are differences only in the amount, and not in the nature, of the alterations.

In 292 cases, Dr. Frerichs found 133 in the third stage, or almost one-half of the whole number.

Our author believes that six of the forms described by authorities so high as Bright, Rayer, Martin Solon, and Rokitansky, may be explained by the transition from the second to the third of the above stadia; these justly celebrated authors having simply described what they saw, without comparative analytical explanations.

Doubts have been raised whether the enlarged kidney of the above described second stadium is capable of passing into the atrophic form; Simon, Johnson, and others believing that the large, fatty kidney should be considered specifically distinct from the atrophied one. Simon and Johnson judge that the atrophy is produced by the distended tubes bursting, and the substances effused being afterwards removed by absorption. The possibility of this Mr. Frerichs does not undertake to deny; but he has never distinguished the anatomical traces of the occurrence.

More formidable objections have arisen to the above history of the production of new connective or cellular membrane. Henle was only satisfied that he saw it in a single case. Simon, Virchow, and others doubt it, and believe that the fibres encountered are the remains of the basal membrane of the canals, and the fibrous structure belonging to the stroma of the kidneys, rendered more compact by means of the contractions which are the necessary result of the atrophy. For the majority of cases, Dr. Frerichs acknowledges that their view is correct; but he alleges that there, notwithstanding, exist exceptions in which the new production of connective membrane cannot be doubted.

Johnson, Henle, and Simon differ from our author, in some degree, as regards the condition of the Malpighian capsules; but they also differ from one another; and the best explanation of the discrepancy is by supposing that they are all right, and that the different results which we have above enumerated occur with different degrees of frequency in particular masses of cases.

Becquerel, Rokitansky, and some others, have adhered to the idea that the granulations were enlarged capsules; but Dr. Frerichs feels supported in the preceding opinions by the general agreement with him of the English school, and cannot relinquish his convictions drawn from observation.

We have been thus minute in the general microscopic history of the disease, because it embraces the most essential portion of the whole subject, and the most important points upon which differences of opinion exist, and because it seems to us an uncommonly fine combination and conciliation of the views of the numerous and distinguished observers and writers on this novel and difficult subject. To achieve this was one of the author's principal motives, as he tells, (p. vii.,) for undertaking the task. It is sufficiently obvious that we shall have to be far more rapid in the rest of our analysis.

Several anatomical lesions are occasionally met with in the kidneys, which do not form an essential part of the disease, and yet which ought to be carefully recollected, as complicating the appearances.

Old *apoplectic caverns* are sometimes observed in the kidneys. (We greatly prefer the word *hemorrhagic* to one producing such a confusion of ideas as the above. What is the meaning of *αποπληξία*? Are the kidneys struck dumb and stupid?) Such hemorrhagic caverns are the result of an active hyperæmia at the commencement of the disease, or of febrile excitements during its course. They are broadish or irregular; from the size of a poppy-seed to that of a pea, or larger, and filled with a black or ochre-yellow matter, according to their age. They are generally found in the cortical portion, and sometimes just under the capsular membrane. Very rare cases have been found, of a wedge-shaped coagulum, with its base at the surface of the kidney, and penetrating deeply, resembling similar coagula found in the spleen.

In only six cases among 292, was the exudation changed, in particular localities, into *pus*. This generally occurred in minute specks, from the size of a pin's head to that of a lentil. In Cormack's case, one mass was as large as a walnut. The pus is, in general, thick, and surrounded by a surface of unaltered fibrinous matter.

Cysts were found containing a fluid approaching, in composition, to the serum of the blood; and, in Dr. Johnson's cases, fatty matter. As far as Dr. Frerichs's researches have extended, they do not contain urinary substances. They are of sizes from that of a millet-seed to that of a hazelnut or larger, and generally project from the surface, becoming conspicuous on the removal of the capsule of the kidneys. They appear to be portions of the tubules, separated from the rest by obstruction or pressure. The gelatinous contents which are found in some of these offer the reaction of mucus, and are probably obtained from the dissolution of epithelial scales. A question whether these cysts were portions of urinary tubes or Malpighian capsules, has lost its interest since the continuity of these parts has been generally acknowledged. If they, in particular instances, contain a Malpighian capsule, the coil of vessels cannot exist long, but must soon become effaced under the pressure of the distending fluid. Dr. Frerichs thinks that the fatty matter found in them by Dr. Johnson may be ascribed to the same source which supplies it to those portions of the tubes which are not separated into cysts: (formation of fat, in drops, in the decomposing epithelial cells, as described above.)

Urinary sand is frequently found in the kidneys. Urates have been met with in the pyramids and in the cortical tubes; sometimes immersed in fibrinous coagula, sometimes disseminated through the cortical matter. Rayer calls nephritis, accompanied by these, gouty nephritis. Johnson saw oxalate of lime in crystals inclosed in cells. Simon found cystin in a cyst.

Tuberculosis has been found combined with Bright's disease, in the same kidney, and Dr. Frerichs can imagine that the irritation produced by the presence of tubercular matter may have contributed to develop the other affection. Diseases of the renal vessels have been also thought capable of contributing to its production. So may tuberculosis of the lymphatic glands in the hilus of the kidney; the tumors in this case acting as a mechanical impediment to the circulation of the blood. Dr. Frerichs has seen three cases of tubercles producing retro-peritoneal abscess, which exerted an unsuspected influence in developing the malady which is the subject of our consideration. In general, however, the latter is found existing alone.

A mode of checking and confirming the observations made with so much care and detail, by the microscope, embracing the apparent effect of chemical agents under that instrument, has been sought by a chemical investigation on the larger and more familiar scale. By these means a feeling of greater certainty is given to the mind, and to this is added the kind of accuracy which is drawn from arithmetical calculation. Specimens of the cortical matter were those compared. The most striking differences were in the quantity of fat, and these seem to depend upon the degeneration and discharge of the epithelium on which we have dwelt at so much length.

In the healthy kidney, Dr. Frerichs found from 16·30 to 18 per cent. of dry, solid matter; and of the dry substance itself, 4·4 to 5·05 of a buttery fat.

In the first stadium of Bright's disease the amount of fat seems rather diminished. Of the whole substance, he found 18·14 of solid matter, and ·79 of fat; and of the solid matter, 4·35 in the hundred.

In another case, of the solid matter, 4·10 of fat.

In the second stadium, the total amount was doubled or tripled.

In one case were found 18·4 of solid matter and 1·72 of fat; and in the solid matter, when dried, 9·4 of fat.

In another case, 17·17 of solid matter, and 2·6 of fat; and of the dried matter, 13·9 of fat.

In the third stage, the ratio of fat is sometimes greater, sometimes smaller, according to the proportion formed and that evacuated.

One case furnished 15·6 of solid matter and 1·6 of fat; and of the solid matter, 10·4 of fat.

Another, of the solid matter, only 4·40 per cent.

In general, the fatty result turns out less than was expected from survey through the microscope; and Professor Frerichs cites this as a convincing proof that it is incorrect to consider all the rounded drops, without nuclei or granules, which are found in animal matter, under the instrument, as being fat or oil. It is a fine example of the thorough character of his investigations, and of his love of truth. In healthy and natural development of the liver, muscles, etc., and of the kidneys of dogs, cats, etc., the proportion of fat is much larger. He has found in the kidney of a cat 32·50 per cent., and in that of a dog, 27·20, both animals being sound, with no albumen in their urine; a valid, confirmatory proof, as our author thinks, that the impression of Canstatt, Johnson, and others, that Bright's disease should be considered as an idiopathic fatty degeneration of the kidneys, is incorrect.

In our notice of the historical retrospect, we omitted the views of these and other authors from want of space. We have not seen Dr. Johnson's last article, and the abstract of it in the French Archives has not left on our minds a strong impression of confutation. We deem our pages best filled with analyses of the fine work before us; though it is proper to state that the number is considerable and the character weighty of those who view Bright's disease as a mixture of several essentially different morbid changes that ought to be distinguished.

Diseased changes in other parts of the body are seldom wanting. In 99 cases the heart was hypertrophied, and among these, in 41 there was contraction or imperfection of the mitral valve, more rarely of the orifice of the aorta; 16 times atheromatous changes were present in the great arteries; in 42 the hypertrophy was uncomplicated with any of these changes.

In 175 the lungs were variously affected. Œdema of these organs occurred 75 times; in 4 cases complicated with œdema of the glottis. Sometimes acute, sometimes chronic, the œdema was principally accompanied by derangements of the structure of the mitral valves; and these were often the immediate cause of death. Pneumonia was present 27 times, generally amounting to a dense, wide-spread, lobar hepatization. In 2 instances gangrene of the lungs was found, and in 8, hemorrhagic infarction, these last cases being among those in which the valves of the heart were in a diseased condition. In 22 cases vesicular emphysema existed; and in 37, crude or softened tubercles.

The liver was diseased 46 times; with cirrhosis 26 times, with fatty degeneration 19 times, and once with carcinoma.

The spleen had undergone alteration in 30 cases; chronic tumor occurring 24 times, and acute 6; most of these last being met with in typhus fever. It is necessary to warn our American readers that the last phrase includes what we and so many admirers of the school formed after Chomel and Louis know more familiarly under the name of typhoid.

In the stomach morbid changes were found 31 times; 24 times indicating catarrhus ventriculi; most of the subjects last referred to being addicted to drinking. Three simple and four carcinomatous ulcers occurred in the pylorus. In one case the blackish or black softening of the stomach had taken place.

In the intestines were found traces of disease 61 times; of these, hyperæmia and catarrh of the mucous membrane 34 times; ulcerated follicles of the great intestine 13 times; tubercular ulcerations of Peyer's glands 12 times; typhous ("typhoid") ulcerations twice.

In the brain and spinal marrow, cerebral apoplexy 11 times. In these 11, hypertrophy of the heart occurred 8 times; atheromatous alterations of the arteries twice; and in one case no visible cause for the apoplexy was detected. Augmentation of serous fluid under the arachnoid was found 40 times; considerable in amount only 10 times. Distinctly characterized meningitis twice; and in both instances a tuberculous deposit. Tumor of the brain, apparently cancerous, occurred once.

Other serous membranes. The dropsies connected with the disease require a more particular notice. Inflammations with fibrinous exudations were found in the serous membranes 81 times, in the pleura 35 times, in the peritoneum 33 times, in the pericardium 13 times.

Bones and joints. White swellings, with caries of the articular extremities of bones, were found 7 times, and necrosis twice.

Cutaneous sloughing was encountered 5 times; lithotomy had been performed once; and diphtheritic cystitis was found once.

We have been thus minute in the anatomical history of this disease, with a hope of usefulness. We believed it the portion most needed in the United States. The works on this subject in the English language have, in general, a tendency to the development and defense of particular views or comments; and we believed that a comparative view of the whole, at least up to a particular year, was well worthy of the humble but laborious employment of an analytical reviewer. As we have had occasion to observe, Professor Frerichs has not copied that modesty, highly unnecessary for him, and we believe equally so for most or all of the observers, which leads to the mere dry record of observations accumulated for some future induction, and refraining from general inferences in the existing state of science. Medicine, we fear, will always be imperfect; at least it is so in our time; and the wants of mankind call loudly for the application of reasoning, as well as observation, to the materials already in hand. Men are not to be allowed to die or suffer in order that a philosopher may adhere strictly to the forms of an inductive method; and we thank Mr. Frerichs, in the name of humanity, for omitting no source of useful improvement in a task so important to the welfare of our species. The vanity of belonging to a school, and the hope of distinction for originality, if merits at all, are such in a degree far inferior to that of gathering what is likely to be useful to mankind from every source, abstract or concrete.

It is evident that we shall have to be very rapid in the remainder of our survey. Simple Bright's disease is generally acute; and is occasioned by exposure to severe cold, by mechanical injuries to the lumbar region, or by the abuse of strong diuretics. It generally attacks suddenly, with some intensity; the urine at once is bloody; pain in the kidneys, sympathetic vomiting, and acute fever are seldom absent; and, under proper treatment, the case generally inclines to an early cure. Dropsy is often absent, and in general only occurs in cases produced by cold. An unfavorable result is most to be anticipated when the effusion is large, and tends to clog the urinary passages to a great extent. Uræmic coma and convulsions in that case generally precede the fatal termination. More rarely is death brought on by effusion into the lungs or serous cavities. It is under improper treatment, want of care, as when the patient is exposed to the open air at too early a period, or other imprudence, that the disease becomes chronic. The prognosis is generally favorable.

In cachectic subjects, the approaches of the malady are generally slow and concealed, occurring, in scattered instances, among persons much reduced by profuse suppurations, caries or tuberculosis. In a part of the cases these are all the causes observed; in others very moderate exposures to cold and damp are capable of bringing it on. Suffering from want of food and the other hardships of poverty, dissolute excesses, constitutional syphilis, or ill regulated mercurial courses, prepare subjects to receive this affection.

A purely cachectic case of Bright's disease often remains undiscovered, principally because the dropsy is absent, or because the latter is ascribed to the cachexy. The prognosis is very serious; and the causes of the cachexy often destroy life before the affection of the kidneys has run its time out. Where the origin of the disease is partly from external causes, there is some hope from treatment, but a definitive cure is even there very rare.

Habitual intemperance of itself does not seem often to produce this disease, but the subjects of such unwise indulgence are so frequently exposed to the other causes of the affection that the latter is by no means rare among such individuals. The approach is generally slow and unsuspected, achieving great disorganization before it attracts attention. Dropsy is, in general, strongly marked; dyspepsia, chronic vomiting, and pulmonary catarrh are present; and pneumonia is extremely frequent toward the close. It is needless to say that the prognosis is always very unfavorable.

It was not till within ten or twelve years that grounds of a fixed conviction, and consequent rational modification of the treatment, were established in regard to the production of Bright's disease in the fever which succeeds Asiatic cholera. F. Simon was aware of the existence of albumen in the urine of such in 1832; but since then the fibrinous moulds of the urinary tubules have been detected in correspondence with the rest of the phenomena. These have been found in a very large share of the subjects; Reinhardt and Leubuscher are quoted as having met with them in 28 out of 34 cases of the fever.

In the cholera typhoid, the urinary secretion is at first suppressed. After three or four days of the active stage of the fever, there is discharged a small quantity of turbid, dingy, or dark-yellow colored urine, rarely containing blood, but depositing a grayish sediment. The latter consists of amorphous mucus, epithelial scales, and fibrinous cylinders of various forms; and to these are sometimes added a precipitate, and crystals of oxalic acid. Boiling exhibits abundance of albumen. Singular coloring matters often appear in the urine; and of these it is hard to determine whether they arise from modifications of urinary coloring matter, or from the admixture of that of the bile. (See the American edition of

Lehmann, ii. 139, for *seven* hypothetical urinary coloring matters, with names assigned to them, but unproved to exist; and i. 284, for the absence of any definite account of that of the bile.) In their reaction, according to Professor Frerichs, they agree entirely with neither. Under nitric acid a reddish tinge is produced, but without the successive changes characteristic of bile pigment. Hydrochloric acid turns the reddish matter to a sky-blue, capable of continuing to exist for several days.

Professor Frerichs takes his description of the cholera typhoid from Reinhardt and Leubuscher. In the milder form, the patients, after a prolonged stage of reaction, complain of great weakness and exhaustion, having the head confused and heavy, and giddy on standing upright, and undergoing deceptions of the senses, as ringing in the ears, double vision, and the imagination of bright specks before the eyes. At the same time there is great tendency to sleep; the patient slumbering with the eyes half opened, giving rational answers when spoken to loudly, but replying peevishly, and falling off immediately to sleep. The pulse, with all this, is generally unaltered, in frequency, but is sometimes a little more or less frequent than in health. The head is warm, circumscribed red spots are visible on the cheeks, and the conjunctiva is injected. The digestive functions are very rarely healthy; generally there is a grayish-yellow coating on the tongue, and that organ is dry in the middle; the appetite is lost, and bilious vomiting occasionally takes place. After several days a copious urinary discharge sometimes occurs, and the expelled albuminous matter and fibrinous moulds gradually disappear, with a quiet diminution of the other symptoms. If, on the other hand, the severity of the symptoms increase, we have the severer cholera typhoid. We beg leave to remind the American reader, that the word "typhoid" does not here imply any particular connection with the dothinenteric pestilence, but merely what it meant in its original employment, since misunderstood, by Professor Chomel, to wit, "resembling typhus."

In this case the nervous symptoms augment much in severity. Deep stupefaction, and, not unfrequently, quiet delirium, occur; and the patient, at first, is to be awakened only by calling to him and shaking him, to become, after an interval, entirely insensible. Local convulsions of a single extremity, or of the face, are sometimes followed by complete epileptiform attacks; and convulsions seem to be, as usual, more frequent in children than in adults. Reinhardt and Leubuscher observed trismus once, and opisthotonos once; the latter continuing for several days. The pulse is less changed, becoming weaker, smaller, and more frequent, but not reaching in these characters the excess found in a severe typhus. In some cases it is less frequent than common. In the cases which directly follow the stage of excitement, the skin, particularly of the face, is warm and turgescent; the red of the cheeks has been compared to vermilion, and the eyes become strongly injected, but the pupil commonly continues natural. Gradually the phenomena of congestion abate and the skin becomes wet with a profuse ammoniacal perspiration. It is not uncommon for the cholera exanthema to make its appearance. The coating on the tongue, at first dirty brown, becomes dry and black; and the teeth, lips, and nasal orifices are besmeared with a dark matter of a consistency resembling that of cream. Vomiting occurs at times, a bilious or mucous matter being discharged by it; and the bowels are generally regular, discharging matters of a natural appearance.

The duration of cholera typhoid is generally from two to eight days. The milder form mostly terminates in recovery; the severer is fatal in nearly two-thirds of the cases.

Recovery is rapid, and we omit the details. The most remarkable indication of the approach of death is a steadily increasing decline of the functions of the brain and spinal marrow. Few of the cases become chronic and exhibit dropsy. The relative frequency of this occurrence after cholera is not ascertained, and appears to be various. It was great in the German epidemics of 1848, 1849, and 1850. It is obvious, as is remarked by Professor Frerichs, that no just estimate can be formed of the proportion of cases which suffer under it without microscopic examination; and it will easily be seen by those who have followed our anatomical abstract, that the rapidity of the whole illness does not, in general, leave time for the production of those large external changes in the appearance of the kidneys which strike the eye, and from which we have been accustomed to take the first impression of anatomical changes in the organ. Yet, in the texture of such kidneys, he has found the largest quantities of fibrinous coagula, while the corresponding albumen occurred abundantly in the urine. He thinks that more than half of the cases of cholera typhoid which had occurred within the last few preceding years had albuminous urine. It was more frequent in Berlin than in Prague or Göttingen. Dr. Frerichs, in fine, is of opinion that the cholera typhoid stands in nearly the same relation to Bright's disease that scarlatina does; and ascribes the typhoid symptoms in both to uræmic intoxication, and its frequent or general accompaniment, the infection of the vital fluid with carbonate of ammonia produced by the decomposition of urea.

The occurrence of dropsy and very dangerous inflammations after scarlatina has received such earnest and pressing attention from physicians of high rank, and been treated with so much nonchalance by others, that we are glad to see and recapitulate what seems to serve us as a rational and scientific explanation of the apparent contradiction. To meet with one accomplished physician who expresses the greatest alarm in regard to these terrible consequences and anticipates a heavy mortality from them, and then with another of large and prolonged practical experience, who has rarely or hardly ever met with these results, affects the mind very unpleasantly. We find quite as much difference as this in the experience of European epidemics; and the key to the difficulty is thought by our author, in common with so many other high authorities, to consist very much in the relative frequency of Bright's disease in connection with the formidable exanthema in question. "Not every case of scarlatina, and not every epidemic of this exanthematic affection is equally fitted to produce Bright's disease. The kidney derangement is sometimes very frequent, sometimes rare, and sometimes altogether wanting." Wells was convinced that it was most likely to occur after a slight and incomplete eruption; and he is supported in this by P. Frank and Hamilton. Willan, Blackall, and Plenciz, on the other hand, believe the most violent form to be that which most predisposes to such results. Vieusseux saw at an early date, "what," says Mr. Frerichs, "all later physicians of extensive means of observation have found themselves forced to acknowledge," that dropsy follows scarlatina of every degree of violence, from the mildest to the severest; and that its frequency of occurrence is above all regulated by the character of the epidemic of the time. Of the causes of this variety Dr. Frerichs acknowledges the still subsisting ignorance of the profession, nor has anything in the appearance of the eruption furnished the least explanation of the subject.

In Edinburgh, in 1835 and 1836, in eight cases of scarlatina one was affected with anasarca. In Botrell's epidemic at Rennes, in 1842 and 1843, almost every case became dropsical. Roesch's epidemic, in the first half of 1842, furnished one in ten. Dr. Frerichs himself, in East Friesland, in 1843, saw one in twenty-five. In London, in 1848, in a wide-spread epidemic, of which one-seventh of the cases terminated in death, James Millar observed renal anasarca in the proportion of 1 in 3·33. Haidenhain, in the spring of 1846, out of twenty-six cases found twenty-one affected with dropsy and albuminuria; or 1 in 1·24.

Albuminuria, in scarlatina *without* dropsy, is far more common than has been generally supposed. James Begbie, in 1848, found it in the whole of twenty-one cases; and in two, from the commencement of the disease. Mr. Newbigging had a similar experience. Professor Frerichs, on the other hand, examined abundance of cases in which this was not to be found by the most critical care.

The secretion of albuminous matter usually begins during the stage of desquamation. Between the eighteenth and twenty-first days, the patients, previously feeling as if they were doing well, complain of languor, want of appetite, and not uncommonly of nausea, which may be aggravated so far as vomiting. At the same time the face appears puffy, and shortly after the whole body exhibits anasarca. The preliminary symptoms which we have mentioned may be wanting, and the dropsy establish itself without warning. The urine is diminished in amount, and the secretion may be absent for a whole day. Snow mentions two cases in which the urine was totally suppressed at the kidneys for forty-eight hours, and the first fluid discharged from the bladder, in quantity a few ounces, consisted almost entirely of blood. The urine is commonly of a muddy, brownish red, sometimes of a bloody red, or resembling the washings of flesh. When blood is absent, albumen and fibrous coagula are abundantly met with.

The further progress of the dropsy does not require a separate description; it may be acute or chronic. In the first the skin is hot and makes more resistance to pressure by the finger than in common anasarca; pain is produced by pressing on the region of the kidneys; the urine is small in quantity, discharged with difficulty, thick, muddy, and very rich in albumen, and the pulse and respiration are accelerated.

The complications which add to the danger of life in the dropsy which follows scarlatina, are so important as to become characteristic and require special notice, though, from their mention in regular order in their proper place, this may produce the effect of repetition. In this dropsy there is a peculiar tendency to inflammatory diseases producing effusion of coagulated matters, albuminous and otherwise. Among the most frequent and serious is pneumonia, generally lobar, but sometimes lobular, commonly beginning without being observed, accompanied early with profuse perspirations and rapidly terminating in death. They leave behind them a gray hepatization. Hamilton saw an instance in which two-thirds of both lungs became hepatized during an inflammation which endured only two days and a half. To detect these requires very careful physical exploration. It is important to attend to the slightest difficulty of breathing in children; and it is by no means uncommon to discover by this means the existence of the disease of the kidneys where it was otherwise unsuspected.

Bronchitis is less frequent, although this too may be rapidly mortal; nor is the danger confined to children or to the tendency to be complicated with lobular pneumonia. Dr. Frerichs saw the case of a soldier, twenty-two years of age, who died within twenty-four hours after he was removed from his cantonment to the hospital, and in whom he found the mucous membrane, from the glottis to the finest bronchiæ, coated with a false membrane. This, where examined, was gray, and a quarter of a line in thickness.* Dr. Frerichs does not employ the term diphtheritis, now so familiar to us in America, in speaking of this case; nor does he, in this connection, mention œdema of the glottis. Œdema of the lungs, he says, is frequently combined with Hamilton's watery effusion, and may become dangerous in a short time. Pleurisy and pleuro-pneumonia are not uncommon after scarlatina. Pericarditis was often seen under these circumstances by Willis, but is more rarely found so than most other inflammatory affections of the chest. It is observed, contrary to what might be naturally expected, to occur much more frequently after scarlatina without albuminous urine. This is based on the cases published by Burrow, Copland, Puchelt, Rilliet and Barthez, and others, with the negative instances of Willis. Peritonitis after scarlatina is quite rare, notwithstanding the effusion of serum into the abdominal cavity. All these inflammations are also observed in the early stage of scarlatina; not necessarily depending on the previous development of Bright's disease. They are then more easily combated.

Uræmic intoxication may exist sufficiently to threaten the life of the patient, often extending to the production of blindness. Violent vomiting and profuse diarrhœa may produce serious and dangerous exhaustion.

The chronic form of dropsy after scarlatina is less important. It may continue for months, and terminate only with the Bright's disease which produced it.

The necessity of abridgment, which will compel us to omit most of the detailed comments on the very important subject of the treatment, with other valuable considerations, obliges us, after giving the above account of the anatomical appearances, nature of the disease, and symptoms, to content ourselves, during the remainder of our task, with mere occasional notices of what has struck our attention.

Albuminous nephritis may follow scarlatina without dropsy, and may prove fatal. Encephalitis, meningitis and the uræmic intoxication which resembles them, may prove fatal in the cases that follow scarlatina. A dropsy without albuminuria also occurs, (sixty cases observed by Philipp, in Berlin, in 1840,) and is generally cured. It is ascribed principally to colds, caught during or after the exfoliation of the cuticle.

Bright's disease after scarlatina is considered one of the favorable forms. Complete cures are frequently met with. They are announced, in the usual course of things, by an increase of the perspiration and urinary secretion. The unfavorable prognosis is principally to be derived from the complications which we have enumerated; inflammations, the larger watery effusions, œdema of the glottis, and exhaustion by vomiting and purging.

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* There is some oversight in language here. How could the finest bronchiæ contain such a thickness? or how could life continue till the completion of such an investment?

The disease has been observed, in a few cases, after measles and small-pox. Instances are found after typhus fever; and this is the least understood of all the forms known. Dr. Frerichs formally commits it to future laborious and extensive inquiry; and we do not see that any abstract of the facts which he has been able to collect, alleging, as he does, their scattered, incomplete, and uncertain character, and the smallness of their numbers, would be profitable to our present purpose. For a different reason we cannot abridge the important chapter on Bright's disease during pregnancy; of analyzing which the difficulty arises from its great extent of inquiry, the value of its conclusions, and the impossibility of doing justice to much of it by endeavoring to shorten it. This affection, as may well be imagined, is truly formidable, from its direct fatality, and from its frequent production of puerperal convulsions, death of the fœtus, abortion, peritonitis, pneumonia and internal metritis. Devilliers and Regnault lost 11 cases out of 20; Lever, 2 out of 12; and our author, 3 out of 7.

During the regular and direct treatment of Bright's disease, venesection, with a conscientious caution and a reasonable discretion, continues to be recommended. This is not one of the cases so much thrust before the popular eye, and not always with honorable motives, where modern advances in pathology have tended to limit the use of blood-letting. In the case of Blackall's work, modern advances in pathology, as we have seen, and as many recollect, pretty effectually extended its employment in dropsies, in which it had been scarce used at all. It is obvious to all who really desire to execute their duty, that the proper rules for the use of bleeding should be a knowledge of the patient's condition, scrupulous care, moderation and conscientiousness, and an avoidance of being governed by excitements of the mind, either from admiration of heroics, endeavors to make revolutions out of dissections or microscopic investigations, or ignorant clamor from practitioners without or within the profession. Local bleeding and counter-irritations are very much left to the authority of a few writers, and to the judgment of the practitioner in the case. A favorable account is given of purgation, a practice extensively known of old in America as the best remedy for dropsy, the success of which greatly exceeded that by diuretics.

One of the qualities for which we have felt most inclined to praise the few German inquirers into whose works we have looked, is the extreme modesty and gentleness with which they comment upon the experience of living or recent practitioners. They are, in general, well versed in the history of medicine; and few remarks more obviously result from that history than that well-informed, observing, and conscientious men in different periods of the world, and at times when very different notions prevail, will, to a surprising extent, come to the same conclusions in practice. We shall see the value of this purgative treatment again adverted to under the treatment of uræmia, and confirmed by another observer of character. The makers of profound researches in German medicine seem very often more inclined to make their discoveries agree with the convictions of those engaged in collateral labors than to gain glory by overturning them, even though it may be proper to modify them. Liebig, in his most original researches, asks his therapeutic facts from an eminent practitioner, as Hufeland, and betrays no inclination to meddle with their validity; and Dr. Frerichs, able, learned, and original as he is, never seeks to destroy the authority of others who deserve it. It is evidently the doctrine of such a school that a well-educated physician will rather seek to build up science than to overturn it, and to link in every novelty, as far as possible, with the past, by a studious and just comparison.

Uva ursi and the pyrola umbellata of our woods here retain their character, and are viewed as diuretics independently of astringency and the local anodyne effect ascribed here to their use. So does horse-radish. It is not surprising that stimulating diuretics, as cantharides, and including turpentine, are prohibited, nor does the writer of this review feel surprised or displeased that this extends to nauseants, such as squills. Dr. Frerichs thinks that, by the use of matters containing tannin in both forms, or of the gallic or tannic acids themselves, combined with aloes, he has succeeded in diminishing the albuminous admixture in the urine. Nutritious diet, and a little light wine, are advised in the anæmic condition. Warm dresses are recommended for healthy diaphoresis; but not diaphoretic drugs. Cream of tartar and digitalis are not forbidden to competent hands; and Seltzer water is included as a diuretic, to be given mixed with other diuretic drinks, or, according to the case, with wine.

The secondary inflammations are, as might be expected, pronounced difficult to manage. We have spoken of their great tendency to increase the mortality, and we shall not attempt to abridge the treatment; which requires so much limitation, and for which the author gives us so little encouragement.

Uræmic intoxication has for its most proper cure, where practicable, the restoration of the urinary secretion. This may be attempted by means of the milder diuretics which we have above enumerated. Hydragogue cathartics, as gamboge, now and then succeed where these have failed; and we observe, in a late number of the Archives, that this practice is confirmed on the authority of Professor Treitz, of Prague. It is not confined to one or a few physicians to see that much, if not nearly all of the urea in the blood, is by this time decomposed into carbonate of ammonia, of which the patient smells, and which is discharged, as remarked, we are told, by the last-named teacher, through all the emunctories. The alimentary canal naturally evacuates so large an amount of the materials of this carbonate, that there can be no doubt of the propriety of the advice to use it as the most powerful instrument of derivation.

The danger of delay is here important in view of the risk of life; and, as Professor Frerichs remarks, is more so than the accidental contra-indications.

In the last stage, where uræmia has been gradually produced, no benefit is to be expected from diuretics.

The second task, in the uræmic poisoning, is to endeavor to diminish the action of the deleterious matters upon the nervous centres. Chlorine and the vegetable acids are here proper, and these last should be varied, as by the use of benzoic acid. Bathing with vinegar, and injections containing the same acid, are here proper, and of some use. Congestion of the brain when present, may be met, as far as practicable, with alvine derivations, and, where really necessary, by local or even general detractions of blood. In cases which have made much progress, it is obvious that no permanent relief is to be expected.

Obstinate vomiting has been palliated by antiphlogistic agents, the use of small quantities of opiates, and, according to Dr. Christison, of creosote.

II.—*The Nature and Treatment of Gout and Rheumatic Gout.* By ALFRED BARING GARROD, M.D., F.R.S., Fellow of the Royal College of Physicians; Physician to University College Hospital; Professor of Materia Medica, Therapeutics, and Clinical Medicine at University College. London: Walton & Maberly, 1859. 8vo., pp. 601.

Two subjects of reflection are suggested by this book before opening its pages. One of these has reference to the multiplication of works treating of individual diseases, or of particular classes of disease. This is a natural effect of the accumulation of practical knowledge. Distinct volumes are now needed for the satisfactory exposition of subjects which formerly claimed only a few pages. This necessity for monographs must become more and more imperative as our knowledge of practical medicine increases. The systematic treatises on the practice of medicine, embracing within the compass of one or two good-sized volumes all that it was important for the practitioner to know of the morbid anatomy, pathology, diagnosis, and treatment of all diseases, have had their day; we doubt if any future bibliographer will have the hardihood to undertake such a work. The other reflection relates to the progress made within the last few years in our knowledge of the relations subsisting between certain diseases and diathetic conditions. This reflection is naturally suggested by a work on gout, from the pen of Dr. Garrod, whose name, for several years past, has been identified with this disease by means of researches which have appeared to establish a pathological connection between the manifestations of the disease and the presence of an excess of the urate of soda in the blood. Assuming this connection to be established, not only have we gained an important increase of our knowledge of gout, but we have encouragement to hope that future researches will lead to the discovery of analogous relations to blood-changes in various affections, as they have with respect to affections dependent on the accumulation of urea in Bright's disease, and, perhaps we may add, the dependence of acute rheumatism on the presence of lactic acid in the blood. As our knowledge advances in this direction, we may expect to understand the origin of many diseases which, in our ignorance, we have been obliged to consider as spontaneous.

With these preliminary reflections we have read Dr. Garrod's work on gout; and we propose to present to the readers of the MEDICO-CHIRURGICAL REVIEW an analysis of those portions of the work which embody the original researches and the experience of the author with respect to matters of practical importance. A limited space being assigned to us, we shall forego much discussion of pathological questions and confine ourselves mainly to the purpose just noted.

The first three chapters, constituting one-sixth of the volume, are devoted to the past literature of the subject, the nature and situation of gouty deposits, and the symptomatology of the disease. We pass by these, simply giving the classification of gout which the author adopts. With a view to simplification, he considers that the phenomena of gout for all practical purposes may be grouped under the heads of—

> "1st. Regular gout, (acute or chronic,) consisting, for the most part, of a peculiar inflammation of the structures within and around one or more joints 2d. Irregular gout, which may be manifested either in severe functional disturbance of any organ, or in the development of inflammation in parts other than those connected with the joints. This last variety would therefore include the various forms classed by different writers under the head of atonic, misplaced, retrocedent, lurking, ab-articular gout, etc."

The condition of the blood in gout is the subject of the fourth chapter. The presence of uric acid in excess in this fluid is the first of a series of data for determining the pathological character of the disease. To Dr. Garrod is due the credit of first demonstrating this organic principle in blood taken from a gouty patient. This was in 1847. In 1848 he reported the results of his observations to the Medico-Chirurgical Society, and at that time he appears to have thought that the presence of this principle in the blood, in any quantity, was abnormal. He has since, however, ascertained that, by manipulating with great care, traces of uric acid are determinable in health. Its presence in abnormal quantity is then a proper expression of a pathological condition which he has not found wanting in at least a hundred cases of gout, in which he has examined the blood. Here, then, we have an important fact which is to be associated with other facts in order to determine its pathological import.

The author indicates a mode in which an excess of uric acid in the blood may be readily ascertained with sufficient exactness for ordinary clinical purposes. This is by a process which he terms the "uric acid thread experiment." From one to two fluid drachms of the serum of the blood is to be put into a glass dish, or capsule, which should be broad and flat; to this ordinary strong acetic acid is to be added in the proportion of six minims to each fluid drachm of serum. When the fluids are well mixed, a very fine thread is to be introduced. The glass is then to be put aside, in a moderately warm place, until the serum is quite set and almost dry. If uric acid be present in morbid excess, it will crystallize, and the crystals will be attached to the thread as sugar-candy is formed on a string. Some precautions are to be taken, which the author points out. If the experiment succeed, he may know, not only that uric acid is present in the blood, but present in an abnormal quantity. The experiment is sufficiently simple, and may be resorted to when it is desirable to determine an excess of uric acid in the blood with reference to diagnosis. But if blood-letting be not indicated as a remedy, there is the inconvenience of being under the necessity of practicing a small venesection for the purpose of the experiment. To obviate this inconvenience, the blood may be procured by drawing a small blister, Dr. Garrod's observations showing that an excess of uric acid is contained in the serum thus obtained, provided the blister be not applied to an inflamed surface.

We have said that an excess of uric acid in the blood is the first of a series of data for determining the pathological character of the disease. As we shall proceed to show, this fact is considered in its relations to other facts, so as to reach by a mode of reasoning, at once simple and logical, certain important conclusions. To have made, however, this first step in the investigation more secure, we could have wished that the author had given the results of examinations of the blood for uric acid in cases of different diseases. He gives subsequently the results of examinations in a large number of cases of acute rheumatism, the results being uniformly negative—a very important point, as bearing on the question of identity or non-identity of gout or rheumatism. But is an excess of uric acid in the blood peculiar to gout? May it not also characterize other affections? These questions have an obvious significance, and it would have strengthened the chain of reasoning by which the author reaches his conclusions, had he answered them by giving results of blood analyses in a sufficient number of diseases.

The urine in gout is considered in the fifth chapter. The opinions of writers show considerable discrepancy as to the occurrence of the urates in the urine of gouty patients. The importance of determining whether they are abnormally increased or diminished, taken in connection with the excess of uric acid in the blood, is at once apparent. This point constitutes the second step in the logical sequence of facts relating to the pathology of gout. Dr. Garrod presents, first, a series of examinations of the urine in patients suffering from acute gout, in whom the general health had usually been good during the intervals of the paroxysms. The results show the daily excretion of uric acid, during a fit of gout, to be not necessarily increased, but often notably diminished. Next, he shows by the results in another series of examinations, that the uric acid is diminished in subjects affected with chronic gout, the majority, at the time the examinations were made, having no very urgent symptoms, but suffering from the sequelæ of the disease. In these cases a small amount of albumen was frequently found. Finally, the urine of individuals who had suffered more or less frequently from attacks of gout of varying degrees of intensity, examined at the time of complete freedom from the disease, presented in no case an amount of uric acid exceeding the healthy average, and in the majority it was far below this average. From these facts the conclusion is drawn, that the kidneys lose, to a greater or less extent, the power of excreting uric acid during an attack of acute gout, in the chronic form of the disease, and in the intervals of the paroxysms. In these facts we have an explanation, in part at least, of the accumulation of uric acid in the blood. It accumulates because it is insufficiently eliminated by the organs which are depurative as respects this excrementitious principle. It is a curious fact, that the impaired excretory power of the kidneys in this disease relates to uric acid exclusive of urea; the urea-eliminating faculty remains comparatively intact.

The author next enters upon the morbid anatomy of gout. The sixth and seventh chapters are devoted to this subject. Premising here, as in entering upon the consideration of other subjects, a historical sketch of the observations and opinions of preceding authors, he proceeds to lay before the reader the results of numerous autopsies made by himself. He considers, first, the alterations seen in and around the articulations. These were observed in the following classes of cases: *First.* In subjects of chronic gout, with extensive chalk-stones. *Second.* In subjects with no appreciable deformity and no visible deposits of chalk-stones, except one or more specks on the cartilage of the ear. *Third.* In subjects in whom no trace of chalky matter was externally visible in any part. *Fourth.* In one subject in which only the ball of the right great toe had been affected with gouty inflammation. In the *first* class of cases there was more or less complete incrustation of the surfaces of the bones with white matter, together with infiltration of the surrounding ligaments, deposit within the tendons and their sheaths, and occasionally along the tendinous expansions of the muscles. He has never found the deposit within the substance of bones, although its occurrence in this situation is asserted by some of the French observers. In the *second* class of cases, many of the joints were affected, showing that extensive deposit may take place internally without corresponding external development. In the *third* class of cases, joints were found to be incrusted, although there was no evidence of this afforded by examination during life. In the single case embraced under the *fourth* class, the articular cartilages of the metatarso-phalangial joint were incrusted with the white deposit, and the surrounding ligamentous tissues freely sprinkled with it. The deposit in all these cases was shown to be urate of soda by the formation of the muroxide or the purpurate of ammonia, and by the crystalline forms under the microscope. The latter appearances are illustrated by beautiful drawings. A similar deposit never occurs in acute or chronic rheumatism, nor in the affection known by the name of chronic rheumatic arthritis.

What relation has the deposit of the urate of soda within and around the articulations to the gouty inflammation of the parts? Dr. Garrod believes that the former stands to the latter in the relation of cause rather than effect; in other words, the deposit of the salt first takes place, and by its presence gives rise to inflammatory action. This conclusion, which he subsequently discusses at greater length, holds an important place in the series of data on which the pathology of the disease is based.

Dr. Garrod shows that the deposit of the urate of soda does not, as has been imagined, replace the cartilages supposed to have become absorbed. The deposit is interstitial, extending only a small distance; it may be removed by digesting the part in rain water for some days, and the end of the bone then presents an almost healthy appearance.

The morbid changes in the kidneys of gouty subjects have an important bearing on the pathology of the disease. Dr. Garrod's observations show that the renal organs become seriously implicated in even the slighter forms and early stages of gout. In advanced disease they are considerably contracted, the decrease of size being chiefly at the expense of the cortical portion, which is sometimes so wasted that the pyramids almost reach the surface of the organ. This condition is by no means distinctive of gout; it is found in connection with other diseases. An appearance, however, which, so far as Dr. Garrod's observations have extended, is distinctive, is due to a deposit of a chalk-like substance in the form of streaks or white lines, chiefly in the direction of the tubes of the pyramidal portion. The mammilla of each cone, also, in some cases presented an appearance of white points, from the deposit of the same matter in this situation.

The deposit causing these white streaks and points is the urate of soda, which here, as elsewhere, presents under the microscope its crystalline forms. Dr. Garrod thinks that the deposit is not within the tubuli uriniferi, but that it is imbedded in the fibrous structure. The presence of this deposit in the kidneys, in greater or less quantities, characterizes all the cases of gout in which autopsies were made by Dr. Garrod, with the exception of a single case, in which the patient had only had two attacks of the disease, the affection in each attack being confined to the ball of one great toe. The contraction of the kidneys in persons who have suffered much from gout, Dr. Garrod attributes, with Dr. George Johnson, to disintegration and removal of the epithelium of the tubes. As a result of this, the tubes gradually become wasted and shriveled from the collapse of the surrounding tissue. This condition of the kidney occurs in advanced gout, and constitutes the so-called gouty kidney of Dr. Todd and Dr. Johnson.

The causes of gout are not only of great importance in their direct practical bearing on the management, but they are to be considered among the data on which a correct understanding of the pathology of the disease must rest. Chapter eight is devoted to this subject. Among the predisposing causes, hereditary influence is considered as holding the first rank. The disease is comparatively rare among females. Age exerts a decided influence. Dr. Garrod has never seen a true case much under twenty. In by far the majority of cases, the disease makes its appearance in adult age after the growth of the body is complete and before the powers begin to decline, or between the thirtieth and fortieth year. Dr. Garrod does not attach much importance to a particular temperament, concluding, as we think very correctly, that this term is often employed in medicine with very little precision. Next to hereditary influence, the most important predisposing cause is the influence of fermented and distilled liquors. But all kinds of liquors are not equally operative in predisposing to the disease. Distilled spirits, when exclusively taken, appear to exert little or no power in inducing gout; whereas the reverse holds good with wines, strong ales, and porter. This may explain the comparative infrequency of gout in Scotland, Ireland, and perhaps, also, in this country.

With reference to the influence of malt liquors, the author quotes the following interesting account by Dr. William Budd:—

> "There is a body of men employed in the Thames, whose occupation it is to raise ballast from the bottom of the river; as this can be done only when the tide is ebbing, their hours of labor are regulated by this circumstance, and vary through every period of night and day. They work under great exposure to the inclemencies of weather; their occupation requires great bodily exertion, occasioning profuse sweating and much exhaustion. In consideration of this. their allowance of liquor is very large; each man drinks from two to three gallons of porter daily, and generally a considerable quantity of spirits besides. This immoderate consumption of liquors forms the only exception, as far as relates to food, which these men offer to the general habits of the lower classes, and, although not a numerous body, many of them are yearly admitted to the seamen's hospital ship, affected with gout. This is a very interesting fact, and seems to show that no amount of bodily exertion is adequate to counteract the influences of such large doses of porter; the exposure of ballasters to wet seems to favor its operation. These men are almost all derived from the peasantry of Ireland; they can rarely, therefore, inherit a disposition to gout."

In a large proportion of cases of gout, dyspeptic ailments are connected with the disease. These may be concerned in the production of the uric acid diathesis, or they may be effects of this diathesis. The more prominent of the symptoms of the dyspepsia connected with the diathesis are thus summed up:—

> "Heart-burn and eructations, oppression, and frequently sleepiness after food; a feeling of distention in the epigastrium, sometimes accompanied with tenderness; some fullness over the hepatic region, and the edge of the liver often projecting a little below the ribs, and occasionally tender to the touch; the tongue much furred, red at the tips and edges; a disagreeable and clammy taste in the mouth, and the saliva and buccal secretion occasionally more adhesive than natural. The bowels are usually more or less confined, scybalous, sometimes very dark in appearance, and at other times light and clay colored, showing a defective secretion of biliary matter. Accompanying these symptoms there is generally a scanty secretion of urine, which is high colored and acid, and often giving rise, on cooling, to a copious deposit of urates, or to a sediment of crystalline uric acid, varying from a brick-dust red to a pale yellow."

This group of symptoms occurrs so often without the development of gout, that we are hardly warranted in placing much confidence in them as premonitions, unless the disease have been already experienced; and on the other hand, an attack of gout not unfrequently occurs without any marked premonitions.

Severe study and mental anxiety, venereal excesses, and other powerfully depressing influences appear to be often instrumental in engendering a gouty habit. The disease prevails less in hot than in temperate climates. Attacks are most liable to occur in the spring months.

Dr. Garrod has been led to regard the influence of lead as a predisposing cause, by finding that of the patients coming under his care with the disease in University College Hospital, at least one in four had, at some period of their lives, been affected with lead poisoning. Another fact leading to this conclusion is an excess of uric acid in the blood in cases of lead poisoning, not only in those who have previously suffered from gout, but even where no symptoms of the latter disease had ever shown themselves. Uric acid, however, is only present in excess in certain cases of lead poisoning.

Among the exciting causes of gout, the author mentions, as the most important, indulgence in alcoholic beverages, indigestion, cold and moisture, severe mental or bodily labor, local injury of joints, and the occurrence of hemorrhage. He has seen a fit of gout produced by copious hematemesis, and by the loss of blood from a tooth and from the nostrils, as well as other forms of hemorrhage.

Having considered the subject of causation, the author, in the succeeding chapter, discusses the pathology or nature of gout. That the pathology of the disease involves an excess of uric acid in the blood has been already foreshadowed. It has been seen that the urine contains less of this principle than the healthy average. The author's researches in the morbid anatomy of the disease have also shown that a deposit of the urate of soda takes place always within or around the joints, and that probably this deposit precedes the development of gouty inflammation. Now, then, the questions arise, is the abnormal quantity of uric acid in the blood a result of the excessive production of this principle which exists in minute quantity in health; or does the uric acid accumulate in the blood, without any excess of production, simply because it is not adequately excreted by the kidneys; or may its excess in the blood be owing to an excessive production and an insufficient excretion combined? Dr. Garrod continues to hold to the views enunciated by him in a paper published in the *Medico-Chirurgical Transactions* for 1848. According to these views, the excess of uric acid in the blood may be due either to the uric acid excreting function of the kidney being defective, or to an undue function of the urate of soda in the blood; the latter, in fact, involving the former. The presence of uric acid in an abnormal quantity in the blood, however, does not fully explain the occurrence of a gouty paroxysm. The latter may be induced by a greatly-augmented formation of the acid, or by the eliminating power of the kidneys, being unusually checked, or *by a less alkaline condition of the blood.* We have italicized the latter part of the preceding sentence, because it relates to a point not before referred to. Diminution in the alkaline state of the blood lessens its power of holding urate of soda in solution, and hence promotes its deposition, especially in tissues in which the reaction is naturally less alkaline than in blood. We quote the author's remarks on this point:—

> "To illustrate this experimentally, we may take a watery solution of the common phosphate of soda and dissolve uric acid in it, but only to such an extent as to insure the fluid remaining alkaline. Any diminution of this reaction by the subsequent addition of a weak acid will cause the precipitation of the urate of soda; but if the fluid be rendered acid, crystallization of free uric acid will ensue."

With regard to the phenomena of a fit of gout the author continues:—

> "It is essential for its production that there should be an impure condition of the blood from the presence of urate of soda, and such impurity may be produced by the action of any of the various predisposing causes of the disease, and is probably of itself sufficient to give rise to the premonitory symptoms which are chiefly manifested in functional derangement of the digestive and circulating organs. To excite a gouty paroxysm, however, requires the additional operation of other agents, namely, those causes by which the urate of soda is either suddenly augmented or rendered less soluble, and its crystallization consequently induced in the ligamentous and cartilaginous structures of the joints."

The conclusions presented in the previous chapters of the work have led, as it were step by step, to the general views of the pathology of gout expressed in the foregoing quotations. In leaving this subject we have only to say that the pathological views of the author seem to be logically proven, and if not correct, they are to be disproved by researches which will show error in some of the premises. Assuming these to be free from error, the reasoning is complete.

The successful management of gout depends in no small measure on correct views of its pathology. This is only applying to this particular disease a remark more or less applicable to all diseases. The remark does not undervalue clinical experience. The latter must be guided to a considerable extent by pathological views; and practical medicine will become as perfect as possible when all that can be educed from clinical experience is conjoined with all that can be ascertained respecting the pathology of diseases. The period when these requisites for perfection are complied with will not arise in our day. In entering on the subject of the treatment, Dr. Garrod takes exception to Cullen's aphorism of trusting to patience and flannel. He believes that a fit of gout is as much under the influence of remedies as any other inflammatory affection, and that the more chronic forms are greatly within the power of the physician. During an acute attack the diet should be strictly antiphlogistic, and so long as febrile movement is present the patient should keep the bed. The constitutional treatment is to be directed toward the diminution of inflammation and febrile disturbance, and the restoration of the blood to a healthy condition. Purgatives he considers as possessing no peculiar power of lessening the articular inflammations; the secretions from the mucous membrane of the bowels, even when hydragogue cathartics are given, do not contain a sufficient amount of uric acid to relieve the overloaded state of the blood. Purgative remedies are only called for when indicated by the undue retention of excrementitial matters in the intestines. Mercury does not exert any specific control over gouty inflammation, and hence should only be administered as a purgative. In advanced gout the use of mercury is to be avoided. Diuretic and diaphoretic remedies are often of much service. The saline diuretics are serviceable also in rendering the blood more alkaline. The acetate of ammonia is mentioned as a suitable remedy to induce diaphoresis, its action being aided by the free use of diluents. The author's experience has led him to withhold opium unless the pain be excessive. Bleeding is not curative, and the only advantage which can possibly be derived from its use is the relief of plethora. Whenever carried to an extent to cause subsequent depression, the effect is to render the attack more frequent and prolonged. The only local application required in the majority of cases is cotton wool covered lightly with oiled silk. Anodyne embrocations are occasionally useful. The author does not mention hypodermic injections which suggest themselves as likely to prove useful by way of palliation of pain, to say the least. We have found methodic friction of the affected joints, even during the height of the inflammation, extremely effective. Commencing with the gentlest friction, the force used may be gradually increased until at length strong pressure is borne without suffering, and the affected joint is greatly relieved.

The use of colchicum is deemed of sufficient importance to devote to its consideration an entire chapter. That this remedy has a most powerful influence upon the progress of gouty inflammation he deems undeniable. and he considers that its action is not limited singly to the removal of gout when it attacks the joints, but that it proves efficacious in its masked and irregular forms. The author coincides with Sir Henry Holland in saying that we may sometimes diagnose gout from other forms of inflammation by noting the influence of this drug. The controlling influence of the remedy is independent of its purging properties, and it is not necessary to carry it to the extent of purging. Nor does its value depend on its effecting an elimination of uric acid through the kidneys, for in a series of cases in which the urine was examined while patients were using the remedy, the amount of uric acid in that fluid was not increased. Moreover, it acts beneficially often when it does not act as a diuretic, the quantity of urine being in some instances lessened. In short, Dr. Garrod does not attempt to explain the *modus operandi*, but rests his opinion of its efficacy exclusively on clinical observation, which he thinks affords evidence that it possesses as specific a control over true gouty inflammation as cinchona barks over intermittent diseases. When prescribed with due care, he believes that it has no tendency to prolong the gouty paroxysm, or render the disease more chronic in its character.

In the chronic stages of gout the inflammatory state of the joints may be relieved by colchicum administered in very minute doses, and continued only for a short period at a time. The iodide of potassium and guaiacum may also be resorted to with advantage. Dr. Garrod does not find the iodide of potassium to possess any appreciable power to remove the deposits of the urate of soda, and he thinks that all the good results of this remedy may be obtained by giving from half a grain to a grain twice or three times daily. We must express surprise at the statement just made; we can hardly conceive of such small doses exerting any effect save as a placebo.

But in chronic gout the grand indication is to remove the abnormal state of the blood. Bearing in mind that the excess of urate of soda in the blood depends on undue formation on the one hand, and on the other hand, on deficient excretion from the renal organs, the indication just stated is to be fulfilled by different measures of treatment. To prevent the undue formation of uric acid, the diet and regimen are to be regulated, and the deficient excretion is to be controlled by remedial agents. The remedies best adapted to purify the blood are those which increase the activity of the secreting organs, and also those which prevent the deposit of the urate of soda in the tissues, as well, perhaps, as remove it when already infiltrated. These objects call for alkalies and salines. Among the alkalies are to be included such neutral salts as the citrates and tartrates which are decomposed in the blood and render the urine less acid in reaction. In administering alkalies, it is to be borne in mind that they are to be introduced into the system. Hence the liquor potassæ or the liquor sodæ are not appropriate, the influence of these being chiefly limited to the stomach and its contents. The carbonates and bicarbonates of these alkalies are preferable, having the effect to render the blood more alkaline, and to alter the secretion of the kidneys, these effects being produced especially by the bicarbonates. The phosphate of soda has the same effects. With reference to rendering the uric acid of the blood and urine more soluble, the potash salts are to be preferred to the corresponding salts of soda; they also act more powerfully upon the kidneys as diuretics. The fact of the geater power of the potash salts in imparting solubility to uric acid may be illustrated experimentally by placing in solutions of the carbonates of potash and soda respectively, small portions of gouty cartilage infiltrated with the urate of soda. The author states that after the portion treated by the potash solution has become quite free from the urate, the portion immersed in the soda remains almost in its original state.

The author is in the habit of prescribing alkaline remedies in the treatment of the paroxysms of gout, giving preference to the bicarbonate or the citrate, or the acetate of potash, in consequence of the greater solvent power of these salts for uric acid as compared with the soda salts, and their greater diuretic effect. But he attaches far more importance to the continuance of these remedies when there is no inflammatory joint affection present; they should be given in small doses, repeated two or three times a day, in a very dilute form, always on an empty stomach, a little while before taking food. Much importance belongs to these points. With reference to the success of these remedies the author says:—

> "I have repeatedly given them to patients who had for many years suffered annually from numerous severe attacks of the malady, with the effect of keeping them free from its return for a whole twelvemonth, and this exemption was accompanied with a decided improvement in the general health. Upon the whole, I have found no treatment so efficacious, and it is attended with this great advantage, that it can scarcely be regarded in the light of drugging, as no really foreign body is thereby introduced into the economy, but merely a slight increase of those saline matters which are present in many articles of food, normal to the constitution of the blood and even necessary to its healthy constitution."

The author has of late made trial with the carbonate of lithia in several cases of chronic gout with advantage. By experimenting with a solution of this salt in the same way as with solutions of the carbonate of potash and soda, in placing in the solution a piece of cartilage infiltrated with the urate of soda, he found that the deposit was more quickly removed than when the potash solution was used. The carbonate of lithia should be given freely diluted in common water or aerated water.

The phosphate of ammonia, first introduced as a remedy for gout by Dr. Buckler, of Baltimore, is mentioned, but the author has evidently not given it much trial. This remedy was suggested as applicable on chemical grounds, the ammonia being supposed to combine with the uric acid, and the phosphorus with the soda, forming two soluble compounds which would be readily eliminated by the kidneys. As Dr. Garrod states, this remedy has been employed by several physicians with success.

Dr. Garrod's experience with the sulphate of quinia is, that it is in no sense a specific, as some have contended, yet he has often seen remissions of the paroxysm follow its use. The ferruginous tonics when indiscriminately given are likely to excite a paroxysm, and for the most part are contra-indicated. When iron is called for he prefers either that reduced by hydrogen, or the saccharine carbonate, or the citrate. It is hardly necessary to add, that regulation of the diet and regimen is of essential importance in the management of chronic gout; but we are glad to see that in his excellent remarks on this subject Dr. Garrod points out the error of carrying too far a reducing plan of dietetics. We could cite an instance from our own experience in which we believe the life of a valued friend was sacrificed to a determination to eradicate in this way the disease.

In concluding the consideration of the treatment, Dr. Garrod devotes a chapter to the subject of mineral waters. His remarks on this subject strike us as eminently judicious, but it is difficult to present an abstract of them within the limits to which we are confined. He attributes their efficacy in a measure to one action common to all kinds, viz., the influence of the water itself. We believe him to be correct in this remark, and it is a point not sufficiently appreciated. Water, as he justly says, when absorbed in large quantities, stimulates powerfully the processes of the animal economy and increases the various secretions. Much of the benefit derived from mineral springs, he doubts not, might be attained by ingesting the same amount of pure water under similar circumstances. With respect to the Vichy waters, after having witnessed the plan of treatment adopted at the baths, he arrives at the conclusion that they are undoubtedly potent agents, but capable of causing much evil as well as effecting good. He regards them as injurious in chronic cases when the system is already lowered. Containing, as they do, the carbonate of soda, they tend to diminish rather than augment the solubility of the urate of soda. They are useful in strong and robust subjects during the complete intervals of acute gout. We pass by remarks on other waters which, in this part of the world at least, are less known.

We come now to the last two chapters of the work. The first of these is devoted to the consideration of the irregular forms of gout. We are glad to find the opinion expressed by so high an authority as Dr. Garrod, that the numerous forms of gout described by many writers, are nothing more than coexisting diseases. To call pleurisy, bronchitis, etc., in certain cases, gouty affections, is certainly a misnomer, unless it be proved that these local affections are due to the same internal cause which determines the peculiar inflammation within and about the joints which characterizes gout. The habit of considering all affections as gouty when they occur in connection with symptoms appearing to point to the gouty diathesis, or when they are developed in persons subject to attacks of gout, not only involves a pathological error, but may lead to erroneous practice. The term irregular gout, moreover, as the author intimates, is often used as a cloak for ignorance, when the true nature and source of ailments are not understood. Still, it is not to be doubted that the diathesis which determines regular gout may give rise to symptoms aside from those relating to the joints. How are we to decide when these are of a gouty character? With reference to this question in individual cases, the existence of hereditary influence, the age and the sex of the patient, are to be considered. The previous existence of any joint affection is to be inquired into, and its character ascertained. In important cases of doubt the blood is to be examined for an excess of uric acid, obtaining it by a small venesection, or by testing the serum from a blister in the manner already described.

Dr. Garrod does not deny the occurrence of retrocedent gout in the stomach, but he states that no case has ever fallen under his observation. He doubts, however, the occurrence of gastric inflammation under these circumstances; the symptoms and the relief afforded by stimulants show the affection to be functional. Cases have been reported in which, coincidently with the disappearance of the joint affection, the heart became greatly distended; but there is no evidence that there ever occurs a metastasis of the inflammation to this organ. When apoplexy supervenes on the cessation of the gouty affection, it is probable that the brain was previously diseased. In all these cases, in addition to such remedies as may be indicated by the symptoms referable to the suffering organs, it is proper to apply warmth and counter-irritation to the extremities, with a view of bringing back the inflammation to these parts.

Gouty affections referable to the digestive organs are often dependent on the same cause which leads to the fit itself, viz., an impure state of the blood from the presence of the urate of soda. Cough and asthmatic breathing appear to be frequently produced by a gouty state of the system. Dr. Garrod's observations, showing the almost constant deposit of urate of soda within the kidneys, (to which reference has been made,) lead him to think that true gouty inflammation is often set up in the structure of these organs. Gouty ophthalmia and iritis admit of doubt; but in this connection may be mentioned the frequent occurrence of little nodules of urate of soda upon the cartilage of the ear. These are noticed in former parts of the work, but have not before been distinctly referred to in this review. Among phenomena referable to the venous and muscular systems, Dr. Graves noticed in certain gouty subjects an insufferable desire to grind the teeth, appearing to originate in a disagreeable, uneasy sensation in the teeth themselves. We have noticed this in the case of a patient affected with gout. Neuralgia is not an uncommon manifestation of gout, occurring in various situations. Hysteria and mania seem to be sometimes attributable to the gouty state. In these and other affections, when they are really irregular forms of gout, the colchicum will be likely to prove a valuable remedy.

The last chapter of the work is occupied mainly with rheumatic gout, and an affection which the author styles rheumatoid arthritis. The term rheumatic gout is often very loosely applied; and when we consider the points of difference between gout and rheumatism, the question which the author asks may well enough be put, is there a disease to which the term *rheumatic gout* can properly be applied? In answer to this question, he expresses the conviction that no combination of the two diseases is ever seen in nature. He is of opinion that this term is applied incorrectly sometimes to cases of true gout when the affection has traveled above the knees and invaded the upper extremities; in other cases to chronic or subacute rheumatism, but particularly to a disease having a peculiar pathology, in no way related to gout, and not necessarily to rheumatism, to which he gives the name of rheumatoid arthritis. In the diagnosis of gout, in addition to points usually given, and with which our readers are presumed to be familiar, Dr. Garrod impresses the importance of an examination of the blood or serum; an excess of uric acid being constantly present in gout, and never in rheumatism. He also suggests an examination of the external ear, the presence of a spot or two on the helix, due to the deposit of the urate of soda, leading quickly to a correct diagnosis in some cases.

Rheumatoid arthritis, called by Dr. Adams, of Dublin, chronic rheumatic arthritis, and by Dr. McLeod capsular rheumatism, included by Fuller and others under the head of rheumatic gout, is an affection characterized by pain in certain joints, the wrist, fingers, or hips; attended at first by little or no swelling, but after a time by enlargement, from secretion of fluid in the articular cavities, as determined by softness and fluctuation to the touch. After absorption has taken place, the swollen joints become gradually hard. There is but slight pain and little constitutional disturbance, unless a large number of joints are implicated. A chronic form of the disease, principally affecting the smaller joints, and especially the last phalanges of the hand, is frequently met with. The morbid anatomy differs essentially from that of gout, in the absence of deposits of the urate of soda. Instead of this, ulcerations of the cartilages and changes in the bony structure ensue. These effects neither occur in gout nor in rheumatism. The blood in patients affected by this disease does not present an excess of uric acid, nor is there any specific alteration in the urine.

Finally, with respect to the prognosis in gout, it is always favorable, so far as concerns immediate danger from a paroxysm. Dr. Garrod remarks that he has never known or heard of an instance which terminated fatally. But he concurs with others in repudiating a common belief that the occurrence of gout is desirable because it cures other ailments, and frees the system from any lurking malady. The endeavor to induce an attack of gout is to be deprecated. The disease, in fact, has a tendency to shorten life. When once experienced, it will be likely to return after longer or shorter intervals. There are very few exceptions to this rule. Gouty patients, however, may live to a good old age. The prognosis is less favorable in proportion as deposits have occurred, crippling the joints, and the kidneys have lost their uric acid excreting power, the urine at the same time containing albumen. The examination of the urine is thus of great value as an aid to prognosis. We give the two concluding paragraphs of the work :—

> "In concluding my remarks upon this subject, I may state, that I consider even a single fit of gout, however slight, should be looked upon as an intimation that the patient cannot go on with impunity in his then habits of living; a warning that either he must change them, or expect returns of the disease, which are certain to increase both in frequency and duration, and likely, if no heed be taken, to embitter and shorten existence."
>
> "On the other hand, I am equally persuaded that if proper regimenal and medicinal precautions be taken, the gouty patient may be saved from such a termination, and that the disease, in place of increasing in severity, may be gradually mitigated, and probably interfere but little with the comforts of life."

We have aimed in this analytical review of Dr. Garrod's work to present, as compactly as possible, the substance of the author's researches and conclusions. We have not found the task wearisome. We have rarely read a work which has afforded us greater satisfaction, and we have derived renewed pleasure in making an abstract of its contents. We trust that we have succeeded in our undertaking sufficiently, at least, to lead our readers to desire to examine the work for themselves. In the arrangement and handling of his subjects, the simplicity and clearness of style, and the philosophic spirit which pervades its pages, we regard it as a model book.

ART. III.—*On Obscure Diseases of the Brain, and Disorders of the Mind: their Incipient Symptoms, Pathology, Diagnosis, Treatment, and Prophylaxis.* By FORBES WINSLOW, M.D., D.C.L., Oxon, etc. 8vo., pp. 576. Philadelphia: Blanchard & Lea, 1860.

CEREBRAL pathology has always been environed by so much that was obscure, that the profession has looked with interest upon all attempts to fathom its profound mysteries. From the researches of experimenters and observers, the important functions which each great organ composing the nervous system performs have been in a great measure revealed, though results yet remain to be discovered in the chain of phenomena which characterize mental and moral manifestations. We have yet to discover—it is scarcely possible that the most elaborate researches which accomplished and profound intellects can bring to the elucidation of the subject can ever discover—the intimate relations between thoughts and actions, motives and judgments, the will and its accomplishment.

We may recognize anatomically each point of surface upon the cerebral organs, and seek in vain to know its functions; yet he who aims to penetrate the obscurity which surrounds the whole subject is entitled to, and receives the acknowledgment that is due to careful and industrious efforts to advance our knowledge of the unknown. If the physiologist deserves our gratitude for teaching us the mode by which we may be instructed in the functions of these organs, is he not also entitled to our commendation who points out to us the steps which we have neglected in tracing the *pathological* changes which occur, or which are manifested by peculiar alterations of mental or moral disposition, many of them so obscure to the unpracticed eye and mind of the physician that he overlooks them as undeserving of special attention, or does not notice them at all? It is to the study of these obscurities and the illustration of the difficulties which the physician has to encounter from a neglect of apparently trivial symptoms, that the work before us is devoted.

The author, Dr. Winslow, is one who has paid unusual attention to psychical investigations, especially to those of a pathological character; and who can be so well able to judge of the healthy phenomena as he whose main study has been that of mental aberrations? Such a study has often led to a complete change of views which had been long cherished, and of which we may instance the striking case of Dr. Noble, well known as for a long time one of the clearest and most ardent of the believers in cranioscopy, whose work on the brain has indeed been quoted as the most able exponent of the so-called phrenological system, but whose views experienced a total change after he had made mental maladies an almost exclusive subject of study. With a candor that did him infinite credit, he published his recantation of long-cherished opinions. Such is the change which must inevitably follow upon more intimate acquaintance with pathological phenomena which had hitherto been surrounded with a certain amount of mystery or obscurity.

The elevated and authoritative position occupied by the author of the work before us is sufficiently indicated by the vast amount of his practice, by valuable contributions to the *Journal of Psychological Medicine*, which receives his careful editorial supervision, and by the fact that the degree of D.C.L. has been conferred upon him by the University of Oxford. Nor will the present volume detract from his well-earned reputation. Perhaps no subject could be more interesting, not only to the professional, but the general inquirer; yet there is danger that the latter may become unnecessarily alarmed when he peruses the long detail of phenomena which may really indicate the incursion of cerebral disease, and yet which may occur in those who may never experience encephalic mischief. Witness, for example, the various hallucinations of the senses, some of them of the strangest character, occasionally met with, and of which many are recorded in the present volume, which certainly indicate hyperæsthesia, and always demand attention, and yet can hardly be regarded as obscure diseases of the brain, but rather perhaps as functional aberrations; probably, however, dependent upon some modification of structure, but of a transient and inappreciable character.

In a work embracing so many interesting and instructive subjects for careful study and consideration, it is of course impossible to notice each point upon which the author has dwelt. Nor shall we attempt to follow him in the minute details of facts and cases which form a prominent and attractive feature of his work. The general design of the volume may be learned from the introductory chapter, in which he dwells forcibly upon the sad consequences of the non-recognition of the precursory or premonitory symptoms of organic affections of the brain.

> "How often," says Dr. Winslow, "is the physician called upon to witness the melancholy consequences, to health of body and mind, life and reason, of a neglect of well-marked premonitory symptoms of cerebral disease! . . . . Upon investigating the history of the diseases of the encephalon, how frequently does the medical man discover that positive and unequivocal symptoms of brain affection have existed, and perhaps, during the early stage, been observed for months, and in some cases for years, without exciting any apprehension on the part of the patient, his family, or his friends!" (Page 18.)

Recognizing the obscurity in which the whole subject of cerebral affections is involved, Dr. Winslow brings to their consideration all the light which observation and experience have so well qualified him to bestow upon them. He regards diseases of the nervous system as not less likely to present characteristic diagnostic symptoms than organic affections of the viscera, and while in the heart and lungs and abdominal organs no structural lesions can occur without exhibiting, at some period or other previous to dissolution, symptoms of their existence, why should it be possible for affections of the brain to exist so long undetected? Many trivial and comparatively unimportant phenomena are overlooked, which are in fact "characteristic symptoms frequently diagnostic of disease having commenced in the brain," yet they require the skillful and practiced eye and mind of a physician who has been familiar with them to give them their proper import.

The characteristic premonitory symptoms of cerebral affections form, therefore, the subject of this work, introductory, as it is, to a more full and detailed description of special forms of disease. Of the value of a knowledge and appreciation of the precursory indications of all forms of mental disorder, the forcible language of the author may be appropriately quoted, especially as the general classification of the work, and the arrangement of subjects in the most concise and intelligible mode, are embraced within the scope of these remarks.

> "Let the physician then estimate, in all its vital importance, the grave necessity for prompt treatment and decisive remedial measures, when satisfied that the enemy is at the gates, and has attacked, or is on the eve of assaulting, the citadel! Under these circumstances, hesitation, delay, or procrastination, in bringing the patient within the range of curative measures, is fraught with the direst results and with the saddest consequences. Let us not willfully close our eyes to the premonitory signs, however apparently insignificant, slight, transient, and fugitive they may appear, of actual mental disorder and brain disease; for it is in this early stage when so much may be effected by judicious medical treatment to obstruct the advance of the fatal cerebral mischief.
>
> "Having dwelt at some length on the existence of a precursory stage in all affections of the brain, and on the importance of watching for the first threatenings of incipient cerebral disorder, I propose to investigate, in detail, the general character of the premonitory symptoms of encephalic and mental disease. It will be well, however, to premise that I cannot in this work do more than generalize on this wide and expansive subject.
>
> "When I address myself, in the succeeding volume, to the consideration of *specific types* of brain disease, it will be my object to enter more elaborately into detail, and to point out, as far as practicable, the diagnostic premonitory signs of the various organic affections of the encephalon. Many of the symptoms to which I shall refer as valid evidences of incipient brain disorder will be found common to several lesions of this organ, each presenting an essentially different aggregate group of symptoms, as well as distinctive anatomical and pathological phenomena.
>
> "Nevertheless, I am of the opinion that a *general* description or *resumé* of the incipient signs of morbid conditions of the brain, before considering individual forms of cerebral disease, will not be without its practical value and importance. Agreeably to this arrangement, I propose to analyze the subject in the following order :—
>
> 1. Morbid Phenomena of Intelligence.
> 2. Morbid States of Motion.
> 3. Morbid Conditions of Sensation.
>
> This classification of the subject fully recognizes the three physiological functions of the cerebro-spinal system, viz.:
>
> α Thought. β Motion. γ Sensation.

4. Morbid Phenomena of the Special Senses, viz.:
    δ Sight.
    ε Hearing.
    ζ Taste.
    η Touch.
    θ Smell.

5. Morbid Phenomena of Sleep and Dreaming.
6. Morbid Phenomena of Organic or Nutritive Life, viz.:
    α Digestion and Assimilation.
    β Circulation.
    γ Respiration.
    δ Generation.

7. General Principles of Pathology, Treatment, and Prophylaxis."—(P. 33.)

In considering the "Morbid Phenomena of Intelligence," the general postulate is advanced that all structural lesions of the encephalon, its investing membranes and blood-vessels, are associated with some derangement, modification, or altered action of the *psychical*, *motorial*, or *sensorial* functions of the great cerebral ganglia, (*πρωτον Αισθητηριον*,) the *sensorium commune*. And first, in regard to changes in the psychical functions, the mind may be in a state of morbid exaltation, depression, aberration, or impairment; but, before analyzing these varied conditions, the author discusses several interesting questions, to the consideration of which nearly a hundred pages are devoted. It is difficult, in a work embracing so many important points in relation to psychical phenomena, to adopt a system of classification of facts and arguments which will comprehend all that is necessary to record, without confusion and obscurity. But in taking up the consideration of a few prominent points of interest, previous to a more profound investigation of the general divisions of his subject, we think he has given the most satisfactory and intelligible mode of analyzing the obscure subjects of incipient symptoms of mental disorders. The prominent introductory questions therein discussed are—

1. The present limited knowledge of the physiology of the nervous system, and ignorance of the phenomena of mind and life.
2. Analogy between insanity and dreaming.
3. State of the mind, when passing into a condition of alienation, as deduced from the written confessions of patients after recovery.
4. Morbid phenomena of thought, as manifested during the states of transition and convalescence from attacks of insanity.

Most of these points are such as would find interested readers among the unprofessional as well as the professional, especially when couched in the appropriate language so characteristic of the work before us. In thus touching upon subjects which have been themes for metaphysical discussion for so long a period, Dr. Winslow, as a learned and observing physician, gives to them the embellishment of an extensive medical knowledge of the cerebral conditions and changes which accompany all these moral and mental manifestations. The charm of well-described cases, which always add to the attractiveness of abstruse subjects of inquiry, is abundantly evinced in the chapter on "Confessions of patients after recovering from insanity." It will be readily appreciated, that the state of the mind during insanity cannot, in a vast number of cases, be faithfully portrayed afterwards by the unfortunate sufferer. Equally interesting must be the transition state between insanity and mental health, the period of convalescence, as described in a number of cases in Dr. Winslow's work.

> "I felt," says one, "as I was recovering, the delusions gradually losing their hold upon my fancy. I then began to entertain doubts as to their reality. I felt disposed to listen patiently to the judicious advice of my physician. I was no longer irritated at being told that my perceptions were false, and began to appreciate the absurdities of other patients. One fellow-sufferer, who firmly believed that he was endowed with supernatural power and divine authority, and whom I had always considered as *sane* and improperly confined, and had invariably treated with great awe and deep reverence, I now thought must be mad!"

The eccentricities of children, the evidences of a wayward disposition, and the exhibition of uncontrollable impulses in early life, are often but symptoms of incipient unsoundness of mind, which may be overlooked. Yet even with the omissions which this oversight may produce in accurate statistical tables of insanity, the prevalence of mental aberration in early life is exhibited in no insignificant proportions. As Dr. Winslow remarks, the statistics upon this subject, which have been quoted by authorities, do not exhibit so much the prevalence of insanity in very early life, as at a period when the system is more impressible to external influences, as between the ages of ten and twenty. Many of the symptoms which manifest themselves early in life may disappear, and the child, now become the man, be free for a long series of years—perhaps forever—from a recurrence.

The conclusions of Dr. Brierre du Boismont, who has paid special attention to the incursion of mental affections in children, are quoted by the author, as follows:—

> "Though, in a certain number of cases, recovery takes place, the mental alienation of children and young people is a most serious disease, partly from their antecedents, and partly on account of the imperfect development of the cerebral and other organs." (P. 144.)

After insanity has been diagnosticated, and, from being latent and unrecognized, becomes unmistakably manifested, the different shapes it assumes, its medico-legal relations, etc., form interesting subjects of study. And here, perhaps, we may at once state what signification the author applies to the word "insane," and how he distinguishes that condition from mere disorder of the mind.

> "I presume it to be a generally admitted axiom that the mind may be *disordered* without being *insane*, using this phrase in its strictly legal acceptation. These conditions of morbid intellect may be considered by some as only degrees of *insanity;* but I would suggest that this term be restricted to those mental disorders accompanied with positive loss of control, clearly justifying the exercise of moral restraint, and to those morbid conditions of the intellect which sanction an appeal to the protective influence of the law. In other words, I would confine my remarks to those cases in which the mind may be said to be *pathologically* disordered, but not invariably *legally* insane." (P. 148.)

The different conditions of the mind embraced in the periods of consciousness, of exaltation, and of mental depression receive ample justice at the hands of the author in three of the most valuable chapters of the work. The period of consciousness or that incipient stage of insanity in which "the patient is fully sensible of entertaining exaggerated and unnatural impressions," and "painfully recognizes the fact that insane conceptions are struggling to master his reason, obtain an ascendency over his judgment, an abnormal influence and control over his passions, and the subjugation of his instincts," is illustrated in numerous cases of interest. Under this head are included the insidious advances of morbid thought, illusions premonitory of insanity, singular examples of hallucination, and the morbid anticipations of the invasion of insanity. How difficult to analyze the obscure pathological changes which accompany this contest between states of mental and moral health or disorder!

Who so well able to describe that painful struggle, in which so often the mental powers finally succumb, as he who has watched the inception and traced the onward progress of these morbid perversions of reason and judgment from obscure symptoms which would be wholly unappreciated by others! How sensibly must the author have felt, after the enlarged experience which has given him this power of recognizing obscure perversions of the moral and intellectual powers, the sad conclusion, that "when analyzing these sad states of morbid ideas, distressing forms of disordered emotion, and painful types of excited passion, we are obliged, alas, to confess, that there is very little in connection with them to elevate, expand, and purify the taste, or to charm, captivate, and enchain the poet's fancy!" Dr. Winslow cites the history of many patients in his personal experience who had had, for a long time prior to the manifestation of insanity, singular warnings of approaching mental disorder, and thus concludes his remarks on the subject:—

> "If damage is done to the delicate cerebral structure in early life by moral or physical causes, and the material lesion, whatever be its nature, is (as is usually the case) of slow and progressive growth, we can easily understand the existence of abnormal *physical* sensations within the head, as well as of morbid *mental* impressions, (engendered by changes in the nervous tissue of the brain,)

which would, in many cases, necessarily give rise to the anticipation of insanity, or to the dread of some type of disease of the brain developing itself at an after period of life." (P. 220.)

The chapter devoted to the *Stage of Exaltation* embraces the consideration of mental conditions which are naturally of a most deceptive character, such as mental acuteness, instinctive sagacity, exhibition of wit and intelligence, while it also includes the physical agitation of incipient insanity, the premonitory signs of apoplexy, and obscure cases of general paralysis. The subject therefore naturally divides itself into two heads—*psychical exaltation* and *somatic exaltation.* Cunningly concealed insanity may baffle the diagnostic efforts of the physician, and the exhibition of acuteness on the part of the patient may lead him to infer that he is not really insane. The consideration of this subject naturally falls under the head of *Exaltation,* and the author inquires whether chloroform might not be employed judiciously to decide whether lunacy does exist.

> "Feigned insanity," he says, "is often unmasked by placing the patient under the influence of chloroform. Might not the same anæsthetic agent be found serviceable in analyzing a case of cunningly concealed lunacy? There can be no doubt as to the effect of chloroform in giving, in a particular type of case, great temporary prominence to insane delusions. I have occasionally observed that when it has been found necessary to administer this anæsthetic agent by inhalation to persons mentally deranged, its immediate effect has been to develop and drag from their hiding-place hallucinations that were previously if not in a latent, but faintly and feebly manifested state." . . . . "It will be important not to confound the hallucinations and illusions occasionally induced, in persons of healthy minds, by the administration of chloroform, with those that are clearly symptomatic of a state of mental derangement."

The chapter on *Impairment of Mind* embraces the discussion of three prominent subjects: general weakness of mind, morbid phenomena of attention, and morbid phenomena of memory. We are naturally led, while examining this portion of the work, to remark upon the prevalent reference of phenomena which appertain to morbid nutrition of the brain in general to softening only. Wherever impaired intellection, accompanied by defective or depraved sensation, exists, the ready diagnosis generally is, softening; and the public and the profession are apt to be satisfied when they have a name for the morbid condition. Yet the general phenomena are usually as suggestive of induration as of softening. These remarks are applicable to the following, from the work before us:—

> "Among the incipient symptoms of softening of the brain and apoplexy are occasionally observed a torpor and prostration of intellect, exhibited in an inability to undertake any kind and degree of mental work. The patient complains of a deficiency of psychical power, an exhausted state of the nervous energy,

and of a want of *vis;*[*] the brain appearing to have lost its healthy tone and stamina.

"M. Gendrin says: 'Apoplectic attacks are often preceded for some days by a difficulty in executing intellectual work, by an incapacity for unusual attention, by an extraordinary irascibility, by a morbid weakness which exaggerates impressions, and produces terrors without a cause, or by unreasonable anxiety concerning ourselves or those related to us.'

"These premonitory symptoms are not demonstrable in every case of cerebral hemorrhage, for many patients appear capable of severe brain or mind work up to the moment immediately preceding the apoplectic or paralytic fit; but in many cases this conscious diminution of vigor of brain and impairment of mind are important premonitory signs of approaching acute paralytic and apoplectic seizures. The symptom, however, is present in other states of disease of the brain. Should this condition of mind be associated with giddiness, headache, depressed spirits, aberration, or impairment of vision, or a slight sensation of numbness (even if circumscribed) in any part of the body, the patient may well be anxious as to the state of his cerebral health." (P. 267.)

The *Morbid Phenomena of Memory*, which are indicative of acute diseases of the brain and disorders of the mind, are fully discussed in five chapters, embracing the general heads of Acute and Chronic Disorders of Memory, Perversion of Memory, Exaltation of Memory, Memory of the Insane, and Psychology and Pathology of Memory. It would be impossible to follow the author in his minute divisions of the subject, which is abundantly illustrated by cases in his own experience and that of others. In his chapter on the Psychology and Pathology of Memory, Dr. Winslow considers the difficult subject of the mode in which sensational and intellectual phenomena are effected. That the impression is recorded in the brain, and in the varying nutrition of the organ the impression is repeated on the new matter, can scarcely be contested. Of such repetition in disease we have examples in the cachexiæ, in the cancer cell, for instance, which continues to produce its like; but the morbid condition is in the structure, not in the blood. We cannot, therefore, agree with Dr. Winslow in the pathological inference which he has emphasized by italics in the following quotation. The impression in such case is, we think, undoubtedly in the structure—in the cells of nutrition—the blood only acting as a pabulum.

"If we turn to the consideration of pathological phenomena, the physiologist is still more bewildered in his attempt to penetrate behind the veil that conceals from finite understandings the incomprehensible laws regulating the operations of life, as dependent upon and connected with the organization of the body. I refer to those subtle changes in the character of the blood effected in infancy by the introduction into it of minute portions of morbific matter with a view of protecting the body from the influence of noxious and often deadly poisons. I allude to the effect of the vaccine virus upon the blood in producing a *permanent and organic change in its constitution and character, which continues to exercise a protective influence against small-pox in the great mass of cases, through a long life, during which time the blood must have undergone many thousands, if not millions, of changes and modifications!* If we could imagine a person so armed, by means of the introduction into the system of healthy vaccine matter, under favorable bodily conditions for its reception, to be drained of nearly his last drop of blood, and subsequently restored to his original vascular condition, we should find no diminution in the force of its sanitary effect upon the vital fluid in early life; in other words, he would continue protected certainly for many years, from the influence of the small-pox poison." (P. 349.)

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[*] We hear this in common parlance most erroneously called *vim*, and often by those who ought to know better; as, "He is a person of great *vim!*"

We wish we could agree with Dr. Winslow in the hope expressed in the following paragraph. The microscope cannot carry us much farther, perhaps, than it has already done; while organic chemistry can only enlighten us on the dead, certainly not on the living cerebral substance.

"In the present imperfect state of our knowledge of the intimate character and composition of nerve structure, admitted ignorance of the *vis nervosa*, as well as of the laws governing the operations of thought, as connected with and dependent upon recondite alterations in the vesicular neurine of the brain, it would be useless to speculate as to the cause of the psychical phenomena to which I am about to refer. Much light may yet be thrown upon this important and intricate subject, as the result of a closer study of mental dynamics as well as of *chemico-cerebral* pathology. Morbid phenomena of mind, incomprehensible to the physiologist, and inscrutable to the pathologist, may be intimately dependent upon minute changes (out of the range of the microscope, and only to be detected in the laboratory) in the organic chemical constitution of brain-matter affecting not only the *quantity*, *quality*, but distribution of the *nerve* and *psychical* force, not on the existing state of our knowledge of physiological and dynamical science, susceptible of demonstration." (P. 351.)

The indestructible character of ideas, which forms an essential feature of the process of memory, is exhibited under special conditions in a marked manner. For example, in certain forms of asphyxia, caused by drowning and hanging; in conditions of the mind preceding death; and in morbid mental phenomena observed to result from injuries to the brain, or to be consequent on special forms of encephalic disease. The sensations of drowning, as cited in cases furnished by the author, afford an exemplification of the hold which ideas once fixed have upon the mind.

"They were the most delightful and ecstatic I have ever experienced. I was transported to a perfect paradise, and witnessed scenes that my imagination never had, in its most active condition, depicted to my mind. . . . . While in this world of fancy, my mind had recalled to consciousness the scenes and associations of my early life, and the memory of the companions of my boyhood. All

> the knowledge I had acquired during a long life recurred to my mind. Favorite passages from Horace, Virgil, and Cicero were revived, and pieces of poetry I had been fond of repeating when a boy, came fresh to my recollection."

And this case naturally leads to the examination of the singular fact that severe illness often revives the knowledge of languages which had been apparently totally forgotten for years. The highly interesting case detailed by Coleridge, in which a young woman, who could neither read nor write, but who, when attacked by fever, talked incessantly Latin, Greek, and Hebrew, is a remarkable illustration of the tenacity with which impressions once made often remain fixed in the mind. Years before she had been employed as a domestic in the family of a clergyman who was a great Hebraic and classical scholar.

Dr. Winslow, in referring to the able researches of Dr. Draper* upon impressions made upon *material* substances cognizable to sense, inquires whether such experiments can "throw any light upon the *physical* or *psychical* phenomena of memory."

> "If," says Dr. Draper, "on a cold polished piece of metal any object, as a wafer, is laid, and the metal then be breathed upon, and, when the moisture has had time to disappear, the wafer be thrown off, though now upon the polished surface the most critical inspection can discover no trace of any form, if we breathe upon it, a spectral figure of the wafer comes into view, and this may be repeated again and again. Nay, even more; if the polished metal be carefully put aside where nothing can deteriorate its surface, and be so kept for many months, even for a year, on breathing again upon it, the shadowy form emerges; or, if a sheet of paper on which a key or other object is laid, be carried for a few moments into the sunshine and then instantaneously viewed in the dark, the key being simultaneously removed, a fading spectre of the key upon the paper could be seen, and if the paper be put away where nothing can disturb it, and so kept for many months, at the end thereof, if it be carried into a dark place and laid upon a piece of hot metal, the spectre of the key will come forth. . . . . A shadow is said never to fall upon a wall without leaving thereupon its permanent trace, a trace which might be made visible by resorting to proper processes. All kinds of photographic drawings are, in their degree, examples of this kind. Of the moral consequences of these phenomena, it is not my object here to speak."

How analogous the action of memory to the physical actions so well described by Dr. Draper!

The chapter on *Morbid Phenomena of Motion* is especially valuable to the physician, as pointing out the premonitory symptoms of apoplexy and paralysis, irregularities of muscular action, and insidious symptoms of epilepsy, which, once recognized, become important elements of consideration in a diagnostic point of view. Under the division of *convulsive action*, embracing "those irregular and morbid states of the motor power or muscular fibre generally grouped under the head Convulsions," epilepsy receives special attention. Discarding the classification of epileptic diseases, which is usually adopted by writers, Dr. Winslow finds much greater facility in describing the different forms of the disease in the following threefold division.

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* Human Physiology, Statical and Dynamical, p. 288.

a. Epilepsy.

(With violent muscular movements.)

β. Epilepsy.

(Nocturnal in its character, and accompanied with slight muscular convulsions.)

γ. Epileptic Vertigo.

(Without muscular convulsions.)

It will be seen by this arrangement that Dr. Winslow adds to the *Petit Mal* and *Grand Mal* of the French, a modified form of epileptic attack which usually occurs at night.

In connection with the subject of *Morbid Phenomena of Speech*, we may refer to the important premonitory symptoms of cerebral disease, characterized by irregular action of articulation, in which, in the words of the author, there is a want of co-ordination in the action of those portions of the nervous centres necessary for the production of articulate sounds, or, more correctly speaking, as suggested by Romberg, "there exists an interruption (caused by various morbid states of the brain) in the pre-established harmony which should obtain between the subjective intelligence and the organs of speech, giving rise to those singular anomalies in the co-ordinating faculty of articulation occasionally witnessed in connection with organic cerebral conditions." The curious phenomena presented by alterations of speech are fully discussed and illustrated by the author. They are frequently the most difficult to explain; for it is almost impossible to appreciate why the memory of certain words only should be lost, while the reasoning faculties seem to be intact; and why certain words should be substituted for others.

But we have not space for further comments. We merely refer to the subjects embraced in the remaining chapters as exhibiting the general character of the work. They are fully as important to medical men as guides to the recognition of obscure disorders of the mind as those which have preceded, considering as they do the morbid phenomena of sensation, of vision, hearing, taste, touch and smell; of sleep and dreaming, of organic and nutritive life; and finally, a very full view of the general principles of pathology, diagnosis, treatment, and prophylaxis of cerebral diseases—all of which form, with the portions of the work previously considered, a general introduction to a treatise on "Organic Affections of the Brain," and to another on "Disorders of the Intelligence, Cerebro-Psychical in their Nature." The volume concludes with a beautiful picture of the qualities which a psychological physician should possess to constitute him worthy of his position.

The work should be in the possession of every physician. It is full of details of the deepest moment; and, while strictly historical, has all the charms of the most interesting novel, so that when its perusal has been once commenced, it is with reluctance abandoned. From the first portion of the Introduction, the reader might be disheartened by the hackneyed exordium in Greek characters to the Aphorisms of Hippocrates. It is the only parade of learning, however, in the work. The style is as attractive as it is accurate. We were at first, indeed, slightly puzzled by the reference to Professor Kolk, and doubt whether Schroeder Van der Kolk ever heard himself so designated. We have seen Parent du Chatelet designated as Duchatelet. His proper name, however, is Parent, and du Chatelet is the distinctive, as is Van der Kolk. We only recollect at this time one case in which the distinction has been sanctioned, that of Du Fresne, Dominus du Cange—now better, indeed almost universally, known as Du Cange.

ART. IV.—*Notes on Nursing; what it is, and what it is not.* By FLORENCE NIGHTINGALE. 8vo., pp. 140. New York: D. Appleton & Co., 1860.

AFTER a careful perusal of Miss Florence Nightingale's "Notes on Nursing," we cheerfully commend it to all households as a text-book, and to all mothers and nurses as a guide and companion.

It is a thorough work, almost uselessly minute in its details, one might say, but all the more reliable, as every one knows what an extended field of observation the authoress commanded, and also how great her advantages were for acquiring information during the many years in which she philanthropically devoted herself to tending the sick and wounded. Her experience has been of a wide and diversified nature, and we have a succinct epitome of it in the excellent manual before us. Surely no one could have been better calculated for the composition of such a work than Florence Nightingale, residing, as she did for a long period, in the hospitals of Great Britain, Germany, and Egypt, and finally perfecting and bringing her knowledge to its acme by her sojourn in the Scutari establishments during the Crimean war.

There is probably not a spot in the civilized world where Florence Nightingale's name is not known and recognized as a synonym of all that is self-sacrificing, ennobling, and enduring in woman. Maligned, as she has been, by many who disliked what they termed her *interference* in the Scutari hospitals, and covered with jealous innuendoes, as unworthy as unfounded, this noble woman needs no word in her defense. Her whole life, and the wondrous unselfishness by which it has been characterized throughout, speak "trumpet-tongued" in her praise, and effectually dispel the malicious assertions of her rivals.

In the table of contents prefixed to her "Notes on Nursing," the following subjects are comprised :—

Ventilation and Warming; Health of Houses; Petty Management; Noise; Variety; Taking Food; What Food? Bed and Bedding; Light; Cleanliness of Rooms and Walls; Personal Cleanliness; Chattering Hopes and Advices; Observations on the Sick, etc.

In regard to ventilation, Miss Nightingale tells us that the fear of open windows is a popular fallacy. The sick-room should be thoroughly aired, for with sufficient covering and hot applications a patient can be kept warm in bed while his room is being well ventilated. She writes :—

> "You must have open chimneys, open windows or ventilators; no close curtains round your beds; no shutters or curtains to your windows; none of the contrivances by which you undermine your own health or destroy the chances of recovery of the sick.
>
> "The safest atmosphere of all for a patient is a good fire and an open window, excepting in the extremes of temperature."

She mentions one thing that it were well for all to know and remember, namely, that sick persons generally suffer much more from cold in the morning than in the evening. If they are feverish at night, they are almost always chilly ere daybreak. Yet nurses persist in heating the foot-warmer at night, but neglect it in the morning, when it is most needed.

Having been told by one of the best medical authorities that the air in London is never so good as after ten o'clock P.M., Miss Nightingale is a strong advocate for the admission of night air into the sleeping apartments of the sick. Owing to the absence of smoke and noise, she thinks night much the better time for airing the sick-room.

We find the belief in contagion greatly ridiculed in this manual, the authoress thinking that one is much more liable to be attacked by small-pox, measles, or scarlet fever, from living in a dark, ill-aired, unhealthy house, than from constant intercourse with persons suffering from these diseases. She remarks :—

> "How few are there who can intelligently trace disease in their households to such causes! Is it not a fact, when small-pox, etc., appears among the children, the very first thought which occurs is 'where' the children can have caught the

disease? And the parents immediately run over in their minds all the families with whom they may have been. They never think of looking at home for the source of the mischief. If a neighbor's child is seized with small-pox, the first question asked is, whether it has been vaccinated. No one would undervalue vaccination; but it becomes of doubtful benefit to society when it leads people to look abroad for the source of evils which exist at home.

"We must not forget what, in ordinary language, is called 'infection,' a thing of which people are generally so afraid that they frequently follow the very practice in regard to it which they ought to avoid. Nothing used to be considered so infectious or contagious as small-pox; and people not very long ago covered up patients with very heavy bedclothes, while they kept up large fires and shut the windows. Small-pox, of course, under this regime, is very 'infectious.' People are somewhat wiser now in their management of this disease. They have ventured to cover the patients lightly, and to keep the windows open; and we hear much less of the infection of small-pox than we used to do. But do people in our days act with more wisdom on the subject of infection in fevers, measles, etc., than their forefathers did with small-pox? Does not the popular idea of infection involve that people should take greater care of themselves than of the patient? That, for instance, it is safer not to be too much with the patient, not to attend too much to his wants? Perhaps the best view of duty in attending infectious diseases is afforded by what was very recently the practice, if it is not so even now, in some of the European lazarets, in which the plague-patients used to be condemned to the horrors of filth, overcrowding, and want of ventilation, while the medical attendant was ordered to examine the patient's tongue through an opera-glass, and to toss him a lancet to open his abscesses with.

"True nursing ignores infection, except to prevent it. Cleanliness and fresh air from open windows, with unremitting attention to the patient, are the only defense a true nurse either asks or needs."

Unnecessary noise in the sick-room indicates a thoughtless absence of care, for when a patient is suddenly awakened out of his sleep, the excitement produced is much greater and of a more lasting nature than that which is caused by a continuous sound. Good nursing, however, does not necessarily presuppose an absence of noise; on the contrary, a firm, light step, and a steady, quick hand, are much better than the tip-toe gait and the timid, lingering touch.

Uncertainty and suspense are often more dangerous to the sick than the diseases from which they are suffering, and the delay of a message, or the non-delivery of a letter, have often led to fatal results. Promptness should be considered a *sine qua non* in nursing.

Never hold a whispered conversation about the patient near his room; for, naturally desiring to know the nature of the colloquy, his attention may be strained and his suspicions aroused to feverish and disastrous anxiety.

In feeding a delirious or stupefied person, his attention should first be attracted by the friction of a spoon upon his lips; otherwise, he is liable to suffocation; and the same rule should have a mental application, as speaking suddenly to the sick may produce injurious consequences.

Variety should be an essential element in the sick-room, for none save those who have experienced the feelings can realize what torture it is to lie for weeks in the same room, amid the same surroundings. We should endeavor to make some change rather in the position of light furniture, or by the occasional addition of flowers or paintings.

Miss Nightingale does not admit that cut flowers have any deleterious effects, and says the carbonic acid exhaled from them would not poison a fly.

In impressing upon us the necessity of variety, she writes :—

> "Variety of form and brilliancy of color in the objects presented to patients are actual means of recovery.
>
> "But it must be slow variety, *e.g.* if you show a patient ten or twelve engravings successively, ten to one that he does not become cold, or faint, or feverish, or even sick; but hang up opposite him one on each successive day, week, or month, and he will revel in the variety.
>
> "A patient can just as much move his leg when it is fractured, as change his thoughts when no external help from variety is given him. This is, indeed, one of the main sufferings of sickness; just as the fixed posture is one of the main sufferings of the broken limb."

We give the subjoined extracts from the chapter on food :—

> "Milk and the preparations from milk are a most important article of food for the sick. Butter is the lightest kind of animal fat, and though it wants the sugar and some of the other elements which there are in milk, yet it is most valuable, both in itself and in enabling the patient to eat more bread. Flour, oats, groats barley, and their kind, are preferable in all their preparations to those of arrow-root, sago, and tapioca. Cream, in many long chronic diseases, is quite irreplaceable by any other article whatever. It seems to act in the same way as beef-tea, and to most it is much easier of digestion than milk. In fact, it seldom disagrees.
>
> "Arrow-root is a great dependence of the nurse. As a vehicle for wine and as a restorative quickly prepared, it is all very well. But it is nothing but starch and water. Flour is both more nutritious and less liable to ferment, and is preferable wherever it can be used.
>
> "Nothing has yet been discovered which is a substitute to the patient for his cup of tea. If you give it at five or six o'clock in the morning, he may perhaps get his only two or three hours sleep during the twenty-four. At the same time, you should never give tea or coffee to the sick, as a rule, after five o'clock in the afternoon. Sleeplessness in the early night is from excitement generally, and is increased by tea or coffee; sleeplessness which continues in the early morning is from exhaustion often, and is relieved by tea. Coffee is a better restorative than tea, but a greater impairer of the digestion.

"An almost universal error among nurses is in the bulk of the food, and especially of the drinks they offer to their patients. Suppose a patient ordered four ounces of brandy during the day, how is he to take this if you make it into four pints with diluting it? The same with tea, arrow-root, milk, etc. You have not increased the nourishment by increasing the bulk; you have very likely diminished both, by giving the patient's digestion more to do, and most probably he will leave half of what he has been ordered to take, because he cannot swallow the bulk with which you have invested it."

It will be unnecessary to refer to the remaining chapters, as they contain but little which is not intuitively known to every good nurse; one thing is mentioned, however, which it would be wrong to overlook; namely, the present lamentable style of woman's attire, and the fact of its utterly incapacitating her for nursing. Indeed, men are now much more efficient in the sick-room. The rustling of dresses, and the many little *gaucheries* consequent upon the wearing of crinoline, are most irritating to the sick.

In nursing, every woman should endeavor to wear garments of the most noiseless material, and should ignore hoops altogether.

In recommending this manual to the public, we would not have it understood that we do so unreservedly, with a full reliance upon its every statement. It undoubtedly contains much which is open to criticism; but as our object has been to give a mere outline of the book, we will leave a critical review of its merits and defects to others.

ART. V.—*Caloric: its Mechanical, Chemical, and Vital Agencies in the Phenomena of Nature.* By SAMUEL L. METCALFE, M.D., late of Transylvania University. 2 vols., 8vo., pp. 630 and 481. Philadelphia: J. B. Lippincott & Co., 1859.

IN a former number of the REVIEW* we took occasion to express our opinion of the merits and demerits of this remarkable work, which originally appeared in London in 1843, and was justly regarded, at the time, as a new and extraordinary system of natural philosophy, physiology, pathology, and therapeutics.

It is not our intention, at this late period, to rehearse the story of the author's enthusiastic fondness for the study of nature, of his wonderful power of generalization, of his bold and earnest attempt to reduce the phenomena of nature to a few comprehensive principles capable of explaining all that is involved and obscure in natural philosophy and biology, of the difficulties he experienced in making this attempt, of his pilgrimage to London, of his persevering studies there, and of the tedious birth of his book amid poverty and distress.

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* For September, 1858.

Neither is it our purpose to dwell upon the contents of these volumes. These were long ago laid before the profession in various able reviews, both critical and analytical, which appeared in the leading medical and scientific journals both of Great Britain and this country. By the editor of the London *Medical Gazette* the work was pronounced to be "the truest specimen and most successful achievement of that which the late Earl of Bridgewater had in view, when he left a sum of money for the purchase and publication of a series of treatises illustrative of the wisdom and goodness of God in creation." Other high encomiums were bestowed upon it in the medical periodicals of that time.

All this, however, belongs to the past and its endless chronicles of good and bad.

Our object in noticing the book at all, is to make a passing comment upon the new edition, which is simply a reprint of the original work, with the addition of a short appendix, written by B. H. R., the gentleman to whom was entrusted the editorial supervision.

We deeply regret that this work should have been given to the world again in its old form, with the date of 1859 upon the title-page, and with various imperfections of which the author was aware, and which it was his intention, had he lived, to have rectified in a new edition. When published in 1843, it was fully up to the times in the accuracy and reliability of its facts; this cannot be said of it, however, in its new dress of 1859, which is calculated rather to detract from his reputation than to increase it. In the sixteen years that intervene between the two editions, the aspect of science has been modified in various particulars. An unwearied student, Dr. Metcalfe kept himself thoroughly posted, up to the time of his death, upon all actual advancement in science. During the last thirteen years of his life, though he published nothing, he wrote a great deal; and, had his life been spared, he would have reproduced his book in a considerably modified form. The intelligent reader will see that the third chapter of this work is strictly fundamental, and that the whole theory of the author revolves around it as around a centre. If the generalizations contained in this chapter are legitimate, the correctness of the whole work must be admitted. If they are erroneous, the whole superstructure erected upon them falls to the ground, the baseless fabric of a dream. Six months of close study and experiment were consumed by the author in the production of this part of his system. It was his intention to have remodeled this chapter and to have introduced into it some newer views and still broader generalizations concerning motion as it is exhibited to us in both the organic and inorganic worlds. Some of his opinions upon this subject he committed to paper, examining and criticising freely the dynamical theory of heat and the facts and speculations brought forward by Joule and others, relative to its mechanical equivalent. In this article he also intended to examine at length the theorem of Laplace, concerning the state of aggregation of bodies; and the views of Graham upon the movement of liquids in the phenomena of endosmose and exosmose. It was his intention also, to have largely commented upon and in some respects to have severely criticised the doctrine of the correlation of the physical, and of the physical with the vital forces, as advocated by Grove, Carpenter, and others. We have in our possession a copy of the first edition of Grove's Essay, the margins of which are, in various places, filled with notes written in lead-pencil by Dr. Metcalfe, and expressing a different interpretation of the facts brought forward by Grove.

In turning over the pages of "Caloric," we observe several paragraphs, and even whole pages, for which the author intended to substitute others more in keeping with the present state of science. He several times informed us in conversation, that he intended to alter some of the chemical tables in the first volume, and introduce several others.

These statements we make with the desire to do justice to the memory of a deceased friend, whose scientific reputation is more likely to be impaired than benefited by the republication of his work in its present form.

ART. VI.—*On the Diseases, Injuries, and Malformations of the Rectum and Anus, with Remarks on Habitual Constipation.* By T. J. ASHTON, Surgeon to the Blenheim Dispensary, etc. etc. Third edition. 8vo., pp. 420. London, 1860.

THE demand for a third edition of this work, so soon after the appearance of the second, while it shows a thorough appreciation of its merits by the profession, must be highly gratifying to Mr. Ashton, who has evidently made a hit in authorship. The fact is, until the publication of the present treatise, there was a great hiatus in English literature in regard to the diseases of the rectum and anus, and the flattering reception of this work need therefore not surprise us. The monographs of Mayo and of Syme were able and scientific productions, reflecting great credit upon their authors; but it may truly be affirmed that they were, even at the date of their publication, sadly in arrear of the existing state of the science of which they professed to give an account. Nearly all the other works that had from time to time been issued by the British press were the offspring of charlatanism, designed to entrap the public, and to enrich the pockets of the writers. The treatise of the late Dr. Bushe, an eminent Irish surgeon, settled for some time in New York, where he finally died, was, in fact, the only monograph having the slightest pretensions to completeness, upon the subject in question; the work was issued in 1837, accompanied by an atlas of illustrations, and has long been out of print, although eminently deserving of a new edition. In freely availing himself of the labors of Dr. Bushe, some of the American reviewers took Mr. Ashton severely to task, accusing him of having taken undue liberties, a charge from which his acknowledgments in the preface should have fully screened him.

The present edition of Mr. Ashton's work has been carefully revised, and, to render it still more useful, it has been illustrated by a number of engravings, admirably executed by Mr. Bagg, from original drawings by Mr. Tuson, from cases occurring in the author's practice. The arrangement of the topics is the same as in the previous issues, and no changes have been introduced in regard to the principles of treatment, their soundness and correctness having been confirmed by additional experience.

It would be idle to attempt an analysis of a work that has, in so short a time, reached its third edition. As it now presents itself, we have no hesitation in saying that it is the ablest treatise on the subject in any language. The book, which should be in the library of every practitioner, has recently been reproduced in this city by the eminent publishing house of Messrs. Blanchard & Lea, in a style worthy of the original, both as it respects the paper, the typography, and the illustrations.

ART. VII.—*The Principles and Practice of Modern Surgery.* By ROBERT DRUITT, Licentiate of the Royal College of Physicians, London, etc. etc. 8vo., pp. 695. With Four Hundred and Thirty-two Illustrations. Blanchard & Lea: Philadelphia, 1860.

FEW works on any branch of medical science have met with such signal success as the Principles and Practice of Surgery, by Mr. Robert Druitt. Originally written when the author was quite a young man, hardly out of the lecture-room, each successive edition has been carefully revised and enlarged until now, when it has reached its eighth issue, it forms a portly and closely-printed octavo of nearly seven hundred pages, illustrated by upwards of four hundred wood-cuts. The publishers have spared no pains to bring out the present edition in a superior manner, and the work, we have no doubt, will continue to be sought after by American students as a reliable guide during their attendance upon lectures. The great popularity of the work at once attests its excellence. It has, unquestionably, some faults, but these are, in the main, of a minor character. The author, for example, has not, in our judgment, treated some of his topics with that minuteness of detail so essential in an elementary book; nor has he done sufficient justice to American surgeons, since, notwithstanding their great achievements in the operative part of the subject, he rarely refers to any of them. This is the more remarkable when we consider the pains which have been taken in this country to disseminate Mr. Druitt's work.

The present edition is accompanied by notes by a young physician of Philadelphia, who has, in some degree, atoned for the omissions here spoken of, but hardly to the extent that could have been desired. He has very modestly withheld his name from the title-page, a circumstance for which he deserves our cordial acknowledgments, for we sincerely hope that we shall see no more of these "pedicular excrescences," to use the language of Dr. Oliver Wendell Holmes, in connection with foreign reprints.

ART. VIII.—*Caffein as an Antidote in the Poisonous Narcotism of Opium.* By HENRY FRASER CAMPBELL, A.M., M.D. pp. 12. Augusta, 1860.

PROFESSOR CAMPBELL has acted wisely in publishing this paper, inasmuch as it will tend to rouse the attention of the profession of the country to caffein as an antidote for poisoning from opium; an occurrence, unfortunately, too frequent in all parts of the world. After some general remarks upon the nature of this alkaloid, and the effects of coffee, the distinguished author details the particulars of a case of extreme narcotism of opium promptly relieved by artificial respiration and the administration of caffein by injection. The patient, a man, aged twenty-four, had taken at least one ounce and a half of laudanum nearly an hour before, and by the time the stomach-pump could be procured, the respiration had nearly ceased. The quantity of caffein injected into the rectum was twenty grains, and the effects of the remedy became conspicuous in a very short time after its administration. In less than an hour the patient was so much revived as to jerk his arm forcibly from the assistant; the respiration rapidly improved, and, although the drowsiness continued for some time longer, there was no recurrence of coma or of muscular relaxation. Should occasion occur again for its use, Dr. Campbell thinks that he would give caffein in smaller doses, as five grains, repeated until the desired effect was produced.

The following are the author's concluding remarks:—

> "The principal object of the present report, however, is only to extend the results of the above remarkable case, wherein the *antinarcotic* effect of the drug had been very apparent; and we therefore desire to dwell no longer on incidental physiological phenomena. If in caffein—so powerful an alkaloid, possessing, in a concentrated form, all the antisoporific virtues of coffee—we have thus found an *antidote* for the narcotic effects of opium, and one which can be applied even in the most extreme states, *by injection*, we must feel that an important extension of its application as a therapeutic agent has been made, and that many lives may be saved hereafter by its use. Reasoning from the result of a single case, it is true, however remarkable that case may be, is, we are aware, always more or less unreliable; but, with the most jealous interpretation of the phenomena, as we observed them, we have been forced to the belief that the means used here acted most powerfully in producing the favorable result. Indeed, we have never witnessed sequences after the administration of a medicinal agent which impressed us more fully with the conviction of *cause and effect*. We would, however, take occasion, in closing, to urge the repetition of the administration of caffein in cases of opium-coma, to a sufficient number of the many which are daily occurring under the eyes of the profession, in order to prove or disprove the validity of our confidence in the remedy."

ART. IX.—*The Anatomy and Physiology of the Placenta. The Connection of the Nervous Centres of Animal and Organic Life.* By JOHN O'REILLY, M.D., etc. etc. 8vo., pp. 111. New York, 1860.

THE chapters comprised in this brochure were originally published in the *American Medical Gazette*, from which they have been transferred, without any alteration, to their present place. The first paper treats of the anatomy and physiology of the placenta; the second, of the connection of the nervous centres of animal and organic life; and the third, of syphilitic iritis. We regret that want of space prevents us from giving a more full account of Dr. O'Reilly's labors.

ART. X.—*Illustrations How to Work with the Microscope.* By LIONEL BEALE, M.D., F.R.S. London, 1859.

THE illustrations in this little brochure comprise upwards of one hundred and fifty separate figures, executed in the highest style of the art, and well calculated to aid the student in the use of the microscope, at present so much in vogue in the investigation of the morbid conditions of the system. The author, Professor Beale, of King's College, London, is most favorably known for his zeal in minute anatomical researches, and his larger work, entitled the "Microscope in Medicine," has given him an enviable reputation on both sides of the Atlantic.

ART. XI.—*Skin Diseases and their Remedies.* By ROBERT J. JORDAN, M.D. 12mo., pp. 283. London, 1860.

THE work of Dr. Jordan does not admit of any analysis, for it is itself an analysis of a most important class of diseases and of their remedies. We look upon the work as a most opportune one, and have no doubt it will meet with an extensive circulation both in Great Britain and in this country. Comprised within an extremely small compass, in comparison with the great treatises of Alibert, Rayer, Wilson, and others, it is sufficiently full for all the purposes of the student and the young practitioner, who may safely refer to it as a faithful guide to what they will be likely to meet with in their daily attendance at the hospital and at the bedside of the sick in private practice. The classification of the author impresses us most favorably; his descriptions are exceedingly clear and definite; and his treatment, in most instances, is remarkably judicious. We hope that the work will soon pass to another edition, and that it may be speedily republished in this country, where, we are quite certain, it would be well received.

ART. XII.—*An Epitome of Braithwaite's Retrospect of Practical Medicine and Surgery.* By WALTER S. WELLS, M.D. New York, 1860.

THE sixth and last part of this work has just been placed upon our table. We congratulate Dr. Wells upon the completion of his self-imposed task, and take great pleasure in recommending his Epitome to the favorable notice of the profession. Comprising, as it does, a faithful abstract of one of the most important periodicals of the day, it cannot fail to prove of immense service to the practitioner, who, in the busy routine of his arduous labors, has but little time to read the original work, now numbering many volumes.

We are happy to see that Dr. Wells proposes to continue the Epitome, in conjunction with the best journals of the age, under the title of "Summary of Medical Science," embodying, as the name implies, the pith of the more important articles in the various medical essays emanating from the leading medical men throughout the world.

ART. XIII.—*Quarterly Summary of Transactions of the College of Physicians of Philadelphia.* Philadelphia, 1860.

THE most interesting article, perhaps, in the present summary, is that by Dr. Da Costa, on the "Effect of Respiration on the size of the Heart," founded upon experimental investigation; but as this will be analyzed in our abstracts, no further notice need be taken of it here.

The other articles are, on arsenic in chronic bronchitis, and on stomatorrhœa vicarious of the menses, by Dr. Wood; on common salt in epistaxis, by Dr. Hays; ligature of the right subclavian artery for axillary aneurism, by Dr. H. E. Drayton; chronic inflammation and softening of the brain, and emphysema, with deep-seated tubercle of the lung, by Dr. Levick; congenital fissure of the upper half of the sternum, by Dr. A. M. Slocum; imperforate rectum, by Dr. Ellerslie Wallace; and, finally, the report on meteorology and epidemics for 1859, by Dr. Wilson Jewell. This report is a very elaborate and instructive one, reflecting great credit upon the talents and industry of the distinguished author. We have room only for the following extract, from which it will be perceived that the mortality of Philadelphia, in comparison with that of some of the other principal cities of the Union, is remarkably small:—

"A comparison of the rate of mortality to population of our own with several other cities, will show still more clearly the striking difference in the death-rate pressure upon populations in different places.

	Population.	Mortality.	Ratio of deaths to pop.	Deaths to each 1,000.	Per cent. of deaths to pop.
Providence	52,000	982	1 in 52·09	19	1·83
Boston	180,000	3,738	1 in 48·15	21	2·07
New York	800,000	21,645	1 in 36·09	27	2·70
Philadelphia	625,000	9,742	1 in 64·15	15	1·55
Baltimore	253,000	5,039	1 in 50·02	20	2·

The remaining portions of the Summary are occupied with the memoirs of Dr. Thomas H. Yardley and Dr. Henry Bond, two members of the College, who died during the past and present years; the first being from the pen of Dr. Littell, and the other from that of Dr. Condie. Both these gentlemen were well known in this city, and were universally respected for their professional attainments and the integrity of their character.

Dr. Yardley was a native of Wakefield, Bucks County, Pennsylvania, and at the time of his death had just entered upon his sixtieth year. A private pupil of the late Dr. Joseph Parrish, he took his medical degree in the University of Pennsylvania in 1825, and was for many years in the enjoyment of a large and lucrative practice. The immediate cause of his lamented death was disease of the heart.

Dr. Bond, born at Watertown, Massachusetts, in 1790, died of apoplexy at the age of sixty nine. His name is widely known in this country in association with Bond's splints for fractures of the radius, Bond's œsophagus forceps, and other instruments and apparatus. In 1856, he published two octavo volumes of upwards of twelve hundred pages, entitled "Watertown Family Memorials," with notes and illustrations. He also occasionally contributed an article to the periodical press. He has left an unpublished manuscript, exhibiting, in tabular form, the statistics of 1307 cases of labor. He bequeathed a portion of his library to the College of Physicians, and the bulk of his estate, after the death of some of his heirs, to Dartmouth College. He had never been married.

ART. XIV.—*Transactions of the New Jersey State Medical Society for* 1859. pp. 95. Newark, New Jersey.

IT is an interesting fact, and one which is not generally known, that the Medical Society of New Jersey is the oldest State medical institution of the kind in America, having been founded in 1766. The first meeting of the Society was held at New Brunswick in July of that year, and was attended by fourteen physicians, all animated, to use the language of Dr. Coleman, its late President, "by a laudable desire to elevate the low state of medicine in New Jersey, and to advance its dignity." The address of this gentleman, delivered at the meeting at Trenton, is characterized by good taste, and strongly urges upon the members of the Society the importance of steady professional progress.

The Transactions are, in the main, meagre and unimportant, as is, indeed, too generally the case with the transactions of similar bodies, especially in this country. Any progress, however, is better than complete inertia; and we feel confident that the effect of Dr. Coleman's able address will not be lost upon his associates, but that it will serve to rouse them to increased exertion in behalf of the great cause in which they are engaged. From some hints in the Transactions, we infer that the profession of the State is not perhaps quite as harmonious, as a body, as it ought to be. This is to be regretted, because not only the profession but also the public will be sufferers by it. We shall be glad, from time to time, to transfer some of the Society's matter to the pages of the REVIEW.

Original Communications.

ART. I.—*Origin of Ovariotomy; with an account of the Life and Services of the late Dr. Ephraim McDowell, of Kentucky.* By the SENIOR EDITOR.

As ovariotomy still engrosses the attention of the medical profession in all parts of the civilized world, I am induced to believe that the following article, read before the Kentucky State Medical Society, at its annual meeting at Louisville, October, 1852, will be perused with great interest by every one who is alive to the progress of American surgery. There is the more reason for its insertion at this time in the REVIEW, because nearly the whole edition of the Transactions of the Society in which it originally appeared was destroyed by fire soon after its publication. So far as my information extends, I was the first to establish, upon a firm and indisputable basis, the claims of Dr. McDowell to the credit of having originated and first performed the operation in question; and I am, therefore, not a little solicitous that a knowledge of these claims should be more widely disseminated, both in this country and in Europe, especially in Great Britain, where the exploits of the Kentucky surgeon seem to be so little known that even his name is seldom correctly spelled.

To Kentucky belongs the honor of having furnished to the world the first case of extirpation of the ovary, for organic disease of this organ. This honor is justly and exclusively due to the late Dr. Ephraim McDowell, of Danville. From a paper published by this gentleman in the seventh volume of the Philadelphia *Eclectic Repertory*, it appears that his first operation was performed in December, 1809. It is not known, with any degree of certainty, how often Dr. McDowell repeated this operation; his published cases amount only to five, but there is reason to believe, from what I have learned from his nephew, Dr. William A. McDowell, that he performed it not less than thirteen times.

During the progress of my labors, as chairman of the committee on Surgery of the Kentucky State Medical Society, I became acquainted, in consequence of letters addressed to various gentlemen in Kentucky, Ohio, and Tennessee, with the particulars of three cases more, which, added to those published by Dr. Ephraim McDowell himself, increase the aggregate to eight. It is to be deeply regretted that Dr. McDowell did not keep a record of his operations, or communicate the results to his professional brethren. Such a contribution would not only have greatly enhanced his own reputation as a bold and original surgeon, but it would have conferred an inestimable boon upon suffering humanity.

As the operations in question reflect the highest credit, not only upon Kentucky and upon Kentucky's illustrious surgeon, but upon the United States, and as they have been mainly, if not exclusively, instrumental in directing the attention of the profession, both in America and in Europe, to a subject which has, of late years, elicited so much interest, research, and skill, it is proper that I should give a brief analysis of them. Dr. McDowell's first three cases are published in the seventh, and the last two in the ninth volume of the Philadelphia *Eclectic Repertory.*

Dr. McDowell's *first operation* was performed upon Mrs. Crawford, of Kentucky, in December, 1809. The tumor inclined more to one side than the other, and was so large as to induce her professional attendant to believe that she was in the last stage of pregnancy. She was affected with pains similar to those of labor, from which she could find no relief. The wound was made on the left side of the median line, some distance from the outer edge of the straight muscle, and was nine inches in length. As soon as the incision was completed, the intestines rushed out upon the table; and so completely was the abdomen filled by the tumor that they could not be replaced during the operation, which was finished in twenty-five minutes. In consequence of its great bulk, Dr. McDowell was obliged to puncture it before it could be removed; he then threw a ligature round the Fallopian tube, near the uterus, and cut through the attachments of the morbid growth. The sac weighed seven pounds and a half, and contained fifteen pounds of a turbid, gelatinous-looking substance. The edges of the wound being brought together by the interrupted suture and adhesive strips, the woman was placed in bed and put upon the antiphlogistic regimen. "In five days," says Dr. McDowell, "I visited her, and, much to my astonishment, found her engaged in making up her bed. I gave her particular caution for the future; and in twenty-five days she returned home in good health, which she continues to enjoy."

It will not be uninteresting here to state, that Mrs. Crawford, at the time of the operation performed upon her by Dr. McDowell, lived in Green County, Kentucky, from whence she removed, some time afterwards, to a settlement on the Wabash River in Indiana, where she died, March 30, 1841, in the seventy-ninth year of her age. There was no return of her disease, and she generally enjoyed excellent health up to the period of her death. She had no issue after the operation. Her youngest child, Mr. Thomas H. Crawford, who has kindly communicated to me these facts, was born in 1803, nearly six years before the operation.

The *second case* was that of a negress. The tumor is stated to have been very large, and so firmly adherent to the bladder and uterus as to render any attempt at extraction perfectly futile. The operator, therefore, contented himself with making a free incision into it with a scalpel, to let out its contents, which were of a thick, ropy and gelatinous character. The incision was of the same length, and made in the same situation as in the preceding case. Upwards of a quart of blood was lost in the operation. The wound, which was dressed in the ordinary manner, healed without any untoward symptom. The woman remained well for nearly five years, when the tumor began to increase again, and in twelve months it was as large as before the operation.

The *third operation* was performed in May, 1816. The subject was a negro woman; and the ovary, which was much enlarged, could be easily moved from side to side, to the left of which, however, it was adherent. Dr. McDowell made an incision into the linea alba, from an inch below the umbilicus to within an inch of the pubes, and then extended the opening toward the right side, about two inches above the former point, to afford himself more room. He next passed a ligature round the Fallopian tube, and "turned out" the left ovary, which was found to be in a scirrhous condition, and to weigh six pounds. The wound was dressed as in the preceding cases, and the woman was well in two weeks, though the ligature did not come away under five weeks. No mention is made of the manner in which the adhesions were overcome.

Dr. McDowell performed his *fourth operation* in April, 1817, upon a colored woman from Garrard County, Kentucky; removing a scirrhous ovary, weighing five pounds. The incision was made near the linea alba, but its extent is not mentioned. The ligature slipped from the Fallopian tube, after its division, and, in consequence, a great loss of blood took place. Several arteries were then tied; but this not arresting the hemorrhage, a large ligature was passed round the whole stump of the tube, and secured in the most careful manner. Although the woman was much exhausted, she happily recovery, but did not fully regain her health. "This, though the smallest ovarium I have ever extracted," says Dr. McDowell, "was much more troublesome to the patient than in any previous case. Besides experiencing severe lancinating pains in the parts, she was seldom able to discharge her urine without getting almost on her head, in consequence of the tumor falling down into the pelvis, and compressing the urethra."

His *fifth* recorded operation was performed on the 11th of May, 1819. The patient, likewise a negress, and the mother of one child, was from Lincoln County, Kentucky, and was supposed by her physician to be laboring under ascites, as the tumor was very large and fluctuating. After having given her hydragogue medicines for some time without any benefit, Dr. McDowell tapped her, and drew off thirteen quarts of thick, gelatinous fluid. The operation was repeated in two months, and it was now ascertained, after the matter was all evacuated, that there was a firm substance, of considerable size, which was evidently a dropsical ovary. Some months after this she was again tapped, and the opening was enlarged so as to admit the finger, which was freely used as a probe, that there might no longer be any doubt respecting the true character of the disease. The incision was made on the left side of the median line, down to the tumor, which was found firmly adherent to the parietes of the abdomen and to the intestines by slender cords, which were easily separated by the hands. The ligamentous bands, attaching the tumor to the uterus, were surrounded by ligatures, after which the tumor was opened, its contents discharged, and the sac extracted. The fluid measured sixteen quarts, and was of a gelatinous character, intermixed with a considerable quantity of hair, and a body resembling very much, in shape, the front tooth of a cow. Violent peritonitis ensued, followed by death on the third day. The uterus and right ovary were perfectly natural, and the ligatures were well applied, and not in a situation likely to injure the adjoining parts.

Dr. McDowell was assisted in this operation by his nephew, Dr. W. A. McDowell, and it was performed in the presence of Drs. Weissiger, Tomlinson and Horr.

It will thus be perceived that of these five cases, three were entirely successful; that one recovered, and remained well for nearly five years, when the tumor recommenced growing; and that one died from peritoneal inflammation within three days after the extirpation of the diseased mass.

A highly respectable lady, Mrs. Overton, aged fifty-five years, of the neighborhood of Nashville, Tennessee, consulted Dr. McDowell, through her professional adviser, Dr. James Overton, in July, 1822, concerning a tumor in the left side of the abdomen, which she had first noticed some time during the previous December. Being a member of a family inclined to corpulency, she paid no particular attention to it for several months, the more especially as it was free from pain and soreness. The enlargement of the abdomen continued to increase gradually, and early in the following May she felt distinctly, on the left side and a little below the level of the umbilicus, a small globular tumor, destitute of sensibility, and movable from side to side, as well as from above downward. About the middle of June, by which time the swelling had considerably augmented in volume, the patient was seized with pains in the back, hips, and thighs, much resembling the first pains of parturition. By the use of laxatives, warm bathing, and anodynes, these symptoms were subdued, and she enjoyed an interval of ease and health, until the latter part of July, when there was a recurrence of the local distress, in a more aggravated form, with great tenderness on pressure. The urinary secretion was natural, both as to quantity and quality, and the uterus appeared to be perfectly sound. No fluctuation could be discovered at this time in the swelling; and the integuments of the abdomen were quite lax, except at the site of the enlargement, where they were very tense.

When Dr. DcDowell visited the patient, in the summer of 1822, the tumor filled nearly the whole of the abdomen, and she had the appearance of a female in the sixth month of utero-gestation. The general health was a good deal impaired, from fever and want of sleep, and there was a sense of weight and dragging in the pelvis, with acute pain in the tumor, perinæum, and thighs.

Supposing the disease to consist in a morbid enlargement of the left ovary, Dr. McDowell designed to extirpate it with the scalpel, and for this purpose made an incision, from five to six inches in length, along the linea alba, over the most prominent part of the tumor down to the peritoneum. Having laid bare this membrane, he proceeded cautiously to divide it, intending to make an opening sufficiently large to admit of the removal of the diseased organ. In this, however, he was disappointed; for he had no sooner made his first incision through the peritoneum than there gushed out, in a full stream, a bloody-looking serum, which continued to flow till the sac which had contained it was apparently entirely empty. The quantity thus lost was about one gallon. The edges of the wound were then approximated by several interrupted sutures, light dressings were applied, and the abdomen was encircled by a broad bandage. This constituted the whole of the operative procedure. No attempt was made, or even deemed practicable, to extirpate the diseased organ, inasmuch as it adhered so closely to the perionteum as to render it impossible to distinguish or separate it. Indeed, Dr. McDowell supposed that he was dividing the peritoneum only when the knife penetrated the ovarian sac. The circumstance took him, as well as every one present, by surprise, because it was entirely unanticipated.

The wound continued to discharge matter for some time after the operation, from the lower extremity of the incision, where a tent was kept for that object. The fluid gradually lost its sanious character, and as it diminished in quantity it assumed more and more the appearance of healthy pus. The wound was entirely healed at the end of about five weeks; and the patient, who lived from fifteen to twenty years after the operation, enjoyed excellent health; nor did she, at any subsequent period, suffer any pain or uneasiness which could be justly ascribed to disease of the ovary, or any other organ connected with the uterus.

The interest of this case is heightened by the circumstance that the late President Jackson, who was a near neighbor of the patient, was present at the operation, assisting in holding her hands, and encouraging her resolution.

For the above interesting and valuable details, I am indebted to Dr. James Overton, an eminent practitioner of Nashville, Tennessee, who was present at the operation, and who had charge of the case, both before and after the operation by Dr. McDowell.

For the details of the next case, I am indebted to the late Dr. Galt, of Louisville.

The subject of this case was Miss Plasters, of Kentucky, who was attacked, in the winter of 1821, with enlargement and pain of the right ovary. The disease gradually increased, and in February, 1823, she was tapped for the removal of the contents of the tumor. The dropsical symptoms, however, soon reappeared, and believing that excision of the affected organ afforded the only chance of permanent relief, her medical advisers, Dr. Galt and Dr. Ragland, requested her to consult Dr. McDowell. I have not been able to obtain any information as to the age of the patient and the size of the tumor; but from a letter written by Dr. McDowell to Dr. Galt, some time after the operation, I learn that the enlarged viscus filled the entire abdominal cavity, and that out of nine cases that had presented themselves with this disease, up to the period adverted to, that of Miss Plasters appeared by far the most hopeless. Upon her arrival at Danville, she was so extremely debilitated that it was believed she would hardly be able to sustain the shock of the operation.

The patient having undergone the necessary preliminary treatment, the operation was performed on the 12th of May, 1823. An incision was made into the abdominal cavity, extending the whole length of the linea alba. Finding the tumor so large that it could not be removed entire, a free opening was made into it, discharging about six pints of fluid. The morbid mass was then lifted from its bed, though not without difficulty, a ligature having previously been cast round its foot-stalk or uterine attachment. The abdominal cavity having been cleared of blood and water, the edges of the wound were carefully closed in the usual manner, and the woman put to bed.

The omentum is said to have been much inflamed and thickened, not, as Dr. McDowell supposed, from the effects of the previous tapping, but from organic disease of its own structure. For ten or fifteen days after the operation, there was a bloody, putrid discharge from the wound, "which," says Dr. McDowell, "I am well assured could arise from nothing but sloughing of the omentum."

Nothwithstanding her debilitated condition before and for some time after the operation, Miss Plasters entirely recovered. On the fourth of August, less than three months after the removal of the tumor, Dr. McDowell informed Dr. Galt that she was in "perfect health and spirits."

In April, 1824, the health of Miss Plasters was so good that she engaged herself to marry in the spring. About this period, however, dropsy of the abdomen set in, rendering it necessary to tap her, and after that Dr. Galt lost sight of her. How long she survived he did not know.

In commenting upon this case, in the letter already referred to, Dr. McDowell holds the following language : "This case proves that appearances in surgery are often deceitful, and that while the taper of life continues to burn, although it be faint, there is yet hope; for Miss Plasters has certainly disappointed most of her friends and all that saw her. My own hopes, at times, were but faint."

"How it is," he continues, "that I have been so peculiarly fortunate with my patients of this description, I know not; for, from all the information I can obtain, there has not one individual survived who has been operated on elsewhere, for diseased ovaria. I can only say that the blessing of God has rested on my efforts." Miss Plasters, it will be remembered, was Dr. McDowell's ninth case.

For the particulars of the following case, in which the operation of ovariotomy was attempted, but not successfully performed, I am indebted to the kindness of the late Professor Drake, of Cincinnati, who saw the patient both before and after she fell into the hands of Dr. McDowell, and who kept full notes of the symptoms and other circumstances. The operation was witnessed by the husband of the lady, a very intelligent gentleman, who afterwards gave an account of it, in a letter to Professor Drake, which I have carefully perused.

Mrs. Delano, aged thirty-eight, a native of Kentucky, but now a resident of Chillicothe, Ohio, has been married eight years, but never had any children. She is of a bilious temperament, has always menstruated regularly, and was never sick until five years ago. In the autumn of 1822, she began to be conscious of a fullness in the abdomen, between the hips and ribs, but this was so slight as to escape observation. For a year the local disease made no apparent progress, and her general health was good. In 1823–4–5, she suffered, at intervals, from nausea, colic, and attacks of fever. In December of the latter year, the colic became constant, and there was great soreness in the sides and limbs. A hard tumor was discovered, about this time, in the right ileo-hypogastric region, which has steadily increased in volume, and now occupies the whole abdominal cavity, from the pubic symphysis to above the umbilicus, reaching outwardly as far as the costal cartilages. It is hard, irregular, slightly movable, and cannot be traced under the ribs. It is somewhat sore on pressure, as well as painful, though less so than formerly. The bowels are usually regular; she lies best on her right side; and she has frequent vomiting, with some cough.

The above memorandum was made, in substance, by Professor Drake, on the 24th of October, 1826; immediately after which Mrs. Delano went to Danville, to consult Dr. McDowell about the propriety of an operation. In the interview which ensued between the parties, "I learned from Dr. McDowell," writes the husband of the lady, "that he had operated for diseased ovaria in nine or ten cases, in eight of which he had been successful. Some of these, I believe, were of that character termed dropsy of the ovary, the tumor consisting of a sac, inclosing a quantity of liquid, gelatinous matter; in the other cases the tumor was solid, and appeared to be composed of a gristly, cartilaginous substance. In every instance attended with success, the tumor was loose and floating, except in one or two cases, where it was filled with water, which was drawn off, the sac being suffered to remain. In every other case, where the tumor adhered, the attempt to operate was unsuccessful; or, if Dr. McDowell succeeded in extracting the morbid growth, as he probably did in one instance, the patient died." Such, then, appeared to be the information obtained from Dr. McDowell.

I have given the above extract from Mr. Delano's letter, because it shows how often, and with what success, Dr. McDowell had performed this operation, at the time the writer consulted him about the case of his wife. His first case occurred, it will be recollected, in 1809, that is, seventeen years previously to the one under consideration.

From the difficulty, or rather impracticability, of moving the tumor about, Dr. McDowell naturally concluded that it must be extensively adherent. Believing, however, that extirpation was not impossible, and the lady being anxious to be relieved, an operation was determined upon. An incision was accordingly made, in the usual manner, through the linea alba, and the tumor exposed by separating the peritoneum and omentum, by which it was enveloped. The patient, at this stage of the operation, became so rapidly and excessively debilitated, that apprehensions were entertained for her immediate safety. The tumor, as had been previously conjectured, was found to be extensively and strongly adherent, and its extraction was pronounced impracticable. In about two weeks the wound was healed, without any material change in the general health.

Dr. Drake visited Mrs. Delano on the 11th of March, 1827, about four months and a half after the operation, and found her excessively emaciated, with swelling of the right leg, and all the symptoms of gradual exhaustion. A cicatrix, from the operation, existed in the linea alba, and was about two inches long. The whole abdomen was excessively protuberant, from the pubic symphysis to the ensiform cartilage. The liver, very hard and greatly enlarged, bulged out high between the short ribs and the umbilicus, over into the left side. Here, in contact with the ovarian tumor, in a kind of groove between them, the colon passed across below the navel. At the centre of the colon was a small, flattish tumor, which felt very hard, and could be moved along the bowel down into the sigmoid flexure. The ovarian tumor filled the right iliac region, and extended, in front, nearly to the umbilicus, crossing the linea alba, and being, seemingly, more prominent on the left side than on the right. It was fixed during respiration, and appeared to be immovable. The liver, on the other hand, obeyed the motions of the diaphragm. Her menses had ceased only about three months before. Death occurred soon after Dr. Drake's visit; no examination of the body was made.

Dr. McDowell was born in Rockbridge County, Virginia, on the 11th of November, 1771. His father, Mr. Samuel McDowell, was for many years a member of the legislature of that State, and appears to have been a man of great popularity in his district. In 1782 he was appointed, along with Mr. Caleb Wallace and Dr. Flemming, by the legislature of Virginia, a commissioner to settle the land-claims of the Territory of Kentucky, and entered immediately afterwards upon the discharge of the duties of his onerous and responsible office.

The following year he removed with his family to Kentucky, and settled near Danville, where he lived till the time of his death, in August, 1817. During his residence here he was appointed Judge of the District Court of Kentucky, and, along with his associates, Judge Wallace and Judge Mütter, assisted in organizing the first court at Danville, which was also the first court ever formed in the district or territory of Kentucky. He remained upon the bench until within a few years of his death.

In January, 1755, Judge McDowell married Miss McClung, of Virginia. The result of this union was twelve children, of whom Ephraim, the subject of this sketch, was the ninth, and the only survivor of whom is Colonel Joseph McDowell, of Danville.

When scarcely two years of age, Ephraim McDowell was brought by his parents to Kentucky. It is not known when he began to go to school; but we are told that he was educated by two gentlemen of the name of Worley and James, who conducted a classical seminary, first at Georgetown, and afterwards at Bardstown. What proficiency he made under the tuition of these teachers, or how long he remained under their charge, I am not informed. The probability, however, is that he never made any great progress in his classical studies, although it would seem that he had some fondness for them. The few brief articles which he contributed to the medical journals, after he had attained to professional eminence, clearly indicate that his early education was defective.

Soon after leaving school, he entered upon the study of medicine, his preceptor being Dr. Humphreys, of Staunton, Virginia, a graduate of the University of Edinburgh. With him he read from two to three years, when, without having, so far as I can learn, attended any lectures in Philadelphia, at that period the only seat of medical education in the United States, he went to Scotland, to avail himself of the facilities afforded by the celebrated school at the capital of that country. He was a member of the medical classes of the University of Edinburgh, for the sessions of 1793 and 1794. This institution was at that time at the very zenith of its renown, attracting pupils from all parts of the civilized world, and overshadowing every other medical school in Europe. We may well imagine with what interest and delight the young and ardent Kentuckian, thirsting after knowledge, drank in the waters of science as they gushed forth from the eloquent lips of a Gregory, a Black, and a Monro, men whose fame was upon the tongue of every medical student and physician in Europe and America. We may suppose, too, that, amid the novel scenes which surrounded him, his mind often reverted to his native country, lamenting its deficiencies for the acquisition of a sound medical education, and regretting, perhaps in bitter terms, the time which he had spent, to so little purpose, in the office of his Staunton preceptor. We may imagine, moreover, that one just fresh from the wilds of America must have felt no little restraint, and even embarrassment, in the polished and refined circle of students in the modern Athens. His principal friend and companion, during his attendance upon the Edinburgh school, was Dr. Samuel Brown, afterwards the elegant and accomplished Professor of the Theory and Practice of Medicine in Transylvania University, and brother of the Hon. James Brown, our Minister at the Court of France. Of his mode of living and his habits of study, while at this far-famed institution, unfortunately nothing is known. His nephew, Dr. William A. McDowell, who was intimately acquainted with his whole history, states that the surgical lectures at the University were not satisfactory to him, and that, in consequence, in his second year he took a ticket to the private course of the celebrated Mr. John Bell. I am not certain who delivered the surgical lectures at that period in the University; probably they were given jointly by Dr. Monro, the second, and Dr. Russell, the latter of whom was always regarded as a very dull teacher by his classes; while the former, although more sprightly and animated, was very prosy in comparison with John Bell, whose enthusiasm and ardor were absolutely boundless.

It is difficult to conceive, at this distant day, the charm which this great teacher infused into his subject, and the ambition which he inspired in his pupils. All loved him; many worshiped him; not a few idolized him. Among the latter was the subject of this memoir. During his attendance upon his prelections, the young American was enraptured by the eloquence of his teacher; and the lessons which he imbibed, while thus occupied, were not lost upon him after his return to his native country. Mr. Bell is said to have dwelt with peculiar force and pathos upon the organic diseases of the ovaries, speaking of their hopeless character, when left to themselves, and of the possibility, nay practicability, of removing them by operation. The instruction thus given made a powerful impression upon Dr. McDowell, which, as has been already stated, was not lost upon him after he took leave of the academic groves of Edinburgh.

I am not able to say, from the facts before me, whether Dr. McDowell was graduated at Edinburgh or not. His brother, Colonel McDowell, states that he was, and in this opinion he is joined by his son, as well as by his nephew, Dr. William A. McDowell. My belief that he did not take a degree in Scotland is based upon three facts: first, that no diploma of the kind has been found among his papers; secondly, that Dr. Samuel Brown, his classmate at Edinburgh, solicited him, after he had attained to eminence in his profession, to permit him and his friends to draw up an account of his cases of ovariotomy, in Latin, in order that it might be sent to Edinburgh, to secure him a degree; and thirdly, that in 1825, the University of Maryland conferred upon him the honorary degree of Doctor of Medicine: a circumstance which would hardly have happened had he been a regular graduate. Be this as it may, the fact that he was or was not a graduate ought not, in the slightest manner, to derogate from his character as a professional man, especially when it is recollected how much more difficult it was then than it is now to obtain a degree in medical schools.

After a residence abroad of about two years, during which he stored his mind with a large amount of valuable information, Dr. McDowell returned to Kentucky, in 1795, and settled at Danville, the scene of his future labors. He immediately entered upon his professional career, nor was he slow in acquiring business. The fame of his foreign tour had preceded him, and served to introduce him into practice. It was known that he had been a student of John Bell, one of the most celebrated surgeons of the age, and that he had devoted himself, with special assiduity, to the study of anatomy and surgery during his sojourn in Scotland. The consequence was that patients soon flocked to him, at first from the neighborhood, and subsequently from all parts of the Southwest, for his aid and advice. Those who were unable, on account of the peculiarity of their ailments, or the roughness of the roads, to come to him, he visited at their own homes, often remaining with them several days, or, when the case was unusually urgent, even a week or two. All the important operations that were required for hundreds of miles around were performed, for a number of years, exclusively by him. At that time he was almost the sole occupant of the field of surgery in the West. Dr. Dudley, since so celebrated for his surgical exploits, had not yet commenced his professional studies, and none of the larger towns of Kentucky had any surgeons of distinction, or even ordinary capacity. The only exception, probably, to this statement, was Bardstown, the residence of Dr. Brashear, who, early in the present century, performed the first successful amputation at the hip-joint in the United States, and who enjoyed for some time considerable reputation as an operator in Nelson and the adjacent counties. Dr. Brashear, however, was scarcely a competitor of Dr. McDowell, or if he was at any time, he did not long continue to be; for soon after the achievement above alluded to, and while he was still a very young man, he abandoned his profession, and moved to Louisiana, where he engaged in planting, even then a lucrative and respectable pursuit. Cincinnati, too, was at that time, and indeed for a long period afterwards, without a surgeon of any respectability or eminence. Thus, as I have already stated, Dr. McDowell was, for a number of years, in the undisputed possession of the surgical field, not only of Kentucky, but of the entire Southwest. How well he cultivated this field, what honor he conferred upon his adopted State and upon the country generally, is too well known to require any comment

In 1802, in the thirty-first year of his age, Dr. McDowell married Sarah Shelby, a young lady of great personal beauty and excellence, daughter of Governor Shelby, one of the most distinguished citizens of Kentucky. The result of this alliance, which greatly augmented his happiness, was eight children, only three of whom survive. Mrs. McDowell died at Danville only about ten years ago.

Dr. McDowell had practiced medicine and surgery for fourteen years, and had secured for himself a large share of reputation for his bold and successful exploits, when, in the autumn of 1809, he was consulted by Mrs. Crawford, the subject of a large ovarian tumor, whose case, from its novelty and the attendant circumstances, must forever remain memorable in the annals of our profession. After a most thorough and critical examination, Dr. McDowell informed his patient, a woman of unusual courage and strength of mind, that the only chance for her relief was excision of the diseased mass. He explained to her, with great clearness and fidelity, the nature and hazard of the operation; he told her that he had never performed such an operation, but that he was ready, if she were willing, to undertake it, and to risk his reputation upon the issue, adding that it was an experiment, but an experiment well worthy of trial. Mrs. Crawford listened to the surgeon with great patience and coolness, and at the close of the interview promptly assured him that she was not only willing, but anxious to submit to his decision; asserting that any mode of death, suicide excepted, was preferable to the ceaseless agony she was enduring, and that she would hazard anything that held out even the most remote prospect of relief. The result has been long before the profession. Mrs. Crawford submitted to the operation, and thus became the first subject of ovariotomy of whom we have any knowledge.

It has already been seen that Dr. McDowell, during his residence at Edinburgh, attended the surgical lectures of Mr. John Bell, who took especial pains to direct the attention of his pupils to the diseases of the ovaries. It is not improbable that the young Kentuckian, while listening to the teaching of the ardent and enthusiastic Scotchman, determined in his own mind to extirpate these organs in the first case that should present itself to him after his return to his native country. The subject had evidently made a strong impression upon him, and had frequently engaged his attention and reflection. He had thoroughly studied the relations of the pelvic viscera, in their healthy and diseased conditions, and felt fully persuaded of the practicability of removing enlarged ovaries by a large incision through the wall of the abdomen. He knew very well that the Cæsarean section had been repeatedly performed with success, and he could perceive no reason why ovariotomy should be attended with more difficulty to the surgeon, or greater hazard to the patient.

When Dr. McDowell undertook this operation, he was not aware that it had ever been performed by any one else, a precedence which certain writers have attempted to prove. In speaking of his first case, he distinctly states that he had "never seen so large a substance extracted, nor heard of an attempt or success attending any operation, such as this required."* Nor was such an operation ever performed before. From all the testimony that I have been able to collect upon the subject, I am satisfied that it was first executed by Dr. McDowell.

Until I had carefully investigated this matter, I was of the opinion, in common with many others, both in this country and in Europe, that a foreign surgeon, L'Aumonier, of Rouen, had anticipated our countryman in this bold and daring undertaking. The attempt to remove this organ is said to have been made by this gentleman as early as 1776. Upon inquiry, however, I find that this was not the fact, but that the case upon which he operated was one merely of abscess of the ovary, consequent upon parturition. There was, of course, no necessity here for extirpation; all that was done by L'Aumonier was to puncture the abscess, to give vent to its contents. He never dreamed of excising the organ, and it is surprising that Dr. John Mason Good and other learned authors should ever have referred to the case as one of ovariotomy.

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* Eclectic Repertory, vol. vii. p. 242. Philadelphia, 1817.

Equally unfounded, in this respect, are the claims of Professor Dzondi and of Professor Galenzowski, whose names precede that of Dr. McDowell, in the elaborate and valuable table of ovariotomy, by Dr. Washington L. Atlee, of Philadelphia. In a work published by the former of these writers, at Halle, in 1816, entitled *Beiträge zur Vervollkommung der Heilkunde*, or, Contributions toward the Improvement of the Healing Art, is an account of a pelvic tumor, in which a cure was effected by drawing out the cyst through an incision in the wall of the abdomen, and, after inducing mortification in it by means of long tents, extracting it piecemeal with a pair of broad forceps.* The tumor thus treated, however, was not ovarian, nor was the patient a female, but a lad, twelve years of age, of the name of Christopher Shultz, who had a circumscribed tumor as large as his head in the hypogastric region. Dzondi relates other examples of a similar nature, relieved by the same mode of management, and he expresses the opinion that this operation might be resorted to with equal success in ovarian dropsy, provided the sac is situated superficially, and is not affected with ulceration or scirrhus. It is difficult to conceive how such a case could ever have been adduced as one of extirpation of the ovary, the more so, when it is recollected that the author himself never advanced such a claim.

The case of Galenzowski, of Wilna, was also one very different from extirpation of the ovary. But this is not all; his operation was not performed until March, 1827, eighteen years after Dr. McDowell's now celebrated operation upon Mrs. Crawford. The tumor, in the case in question, was multilocular, of large size, and so firmly and universally adherent to the posterior wall of the abdomen as to render its total extirpation impracticable. Galenzowski, therefore, made a large incision into its cavity, according to the method of Le Dran; and then, passing his fingers into it, he tore up its cells, evacuated its contents, and secured the sac with a ligature to the external wound, to prevent the possibility of peritoneal effusion. On the thirty-second day a piece of the sac was found in the dressings; another was discharged on the fifty-second day; and, finally, a third on the sixty-second. The patient was discharged on the seventieth day, having only a small fistule in the hypogastric region.

The particulars of Galenzowski's case are contained in the twelfth volume of Graefe & Walther's *Journal der Chirurgie;* and in a translation of his paper, originally published in Latin, in the ninth volume of the North American Medical and Surgical Journal, issued at Philadelphia, in 1830. An abstract of it may be found in Malgaigne's Operative Surgery, by Brittan, p. 391, Philadelphia, 1851; and in the *Dictionnaire de Médecine*, tome xxii. p. 592, Paris, 1840.

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* American Medical Recorder, vol. iii. p. 62.

In consequence of the novelty of Dr. McDowell's operations, and of the loose manner in which they were drawn up for publication, an attempt was made by certain writers, both in this country and in Europe, to deny their authenticity, and to cast discredit upon the author's veracity. Among the various detractors who busied themselves in this way, no one was more loud and clamorous than Dr. James Johnson,* the editor of the London Medico-Chirurgical Review, a periodical well known in the United States. In speaking of Dr. McDowell's first case, he remarks: "Dr. Mac visited the patient at the end of five days, though she had come to his own residence to have the operation performed! He found her engaged in making her bed! She soon returned to her native place quite well. *Credat Judæus, non ego.*" In adverting to the second case, the reviewer says: "We cannot bring ourselves to credit the statement." It is proper to add that Mrs. Crawford, the subject of the first operation, performed in 1809, and so sneeringly spoken of by Dr. Johnson, survived until 1841, or until after the completion of her seventy-eighth year; and that the authenticity of the second case, concerning which he expresses so much incredulity, is equally well established.

In a subsequent article upon this subject, published in October, 1826, the same writer indulges in the following language:† "A back settlement of America, Kentucky, has beaten the mother country, nay, Europe itself, with all the boasted surgeons thereof, in the fearful and formidable operation of gastrotomy with extraction of diseased ovaria. In the second volume of this series, page 216, we adverted to the cases of Dr. McDowell, of Kentucky, published by Mr. Lizars, of Edinburgh, and expressed ourselves as skeptical respecting their authenticity. Dr. Coates, however, has now given us much more cause for wonder at the success of Dr. McDowell; for it appears that out of five cases operated on in Kentucky by Dr. McDowell, four recovered after the extraction, and only one died. There were circumstances in the narratives of some of the first three cases that raised misgivings in our minds, for which uncharitableness we ask pardon of God, and of Dr. McDowell, of Danville." Such language needs no comment; it speaks for itself, for it carries with it its own condemnation. When the learned, caustic, and ungenerous editor of the London Medico-Chirurgical Review indited it, he was ignorant—perhaps, willfully ignorant—of the fact that he was slandering the father of ovariotomy, and speaking sneeringly of a State that has given birth to the first lithotomist, and the first American statesman of the nineteenth century.

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* Eclectic Repertory, vol. vii. p. 242. Philadelphia, 1817.

† Medico-Chirurgical Review, January, 1825.

But it need not surprise us that Dr. McDowell's cases of ovariotomy should have been treated with contempt abroad, when attempts were made to discredit them at home. What effect these attempts exerted upon the professional mind of the United States, it would be useless, at this remote day, to inquire; suffice it to say that they aroused the assailed party to a sense of self-defense, and caused the publication of additional cases, confirmatory of those that had previously appeared in the Eclectic Repertory.

It would seem that Dr. McDowell kept no notes of any of his cases, and that he was prevailed upon, with the greatest difficulty, to publish an account of the first three in the Eclectic Repertory. His nephew, Dr. William A. McDowell, states that he had to urge, among other inducements, the debt of gratitude which his uncle owed to Mr. John Bell, and his obligation to compliment that celebrated surgeon with an exhibition of the exploits of his pupil, in the execution of an operation the practicability of which he had been at so much pains to teach in his lectures. This appeal had more weight in deciding Dr. McDowell than anything else that could be urged. He finally drew up an outline of his cases, referring to his ledger for his dates, and to his memory for the facts. They were not written out with sufficient minuteness and precision; but they had, at least, two capital merits—truthfulness and brevity. A copy of the paper, with a letter of acknowledgment, was forwarded to Mr. Bell, but this he never received. He was absent at the time, traveling on account of his health in Italy, whence he never returned alive. The paper subsequently fell into the hands of Mr. Lizars, who published it seven years afterwards, in the thirty-second volume of the Edinburgh Medical and Surgical Journal, in consequence of an attempt which he made to ovariotomize a female, to the peril of her life, who was found to be afflicted only with abdominal obesity.

Another copy of these cases was sent, in the autumn of 1816, to Dr. Physick, of Philadelphia, with a request that, if found worthy, he should have them published in some medical journal. It is not known whether the "Father of American Surgery" ever read the paper, or investigated the nature of the operation which it described; certain it is, he never took any notice of it, either to Dr. McDowell, his pupils, or any one else. He had no time to bestow upon the subject, or the subject was unworthy of his attention. He might have thought the author of the paper a backwoods impostor, or a man who was speaking for Buncombe.

Dr. William A. McDowell, who was bearer of the above dispatch, was more successful in his interview with Dr. James, the modest, amiable, and benevolent Professor of Midwifery, in the University of Pennsylvania. This gentleman had been in the habit of depicting to his pupils, with every revolving lecture term, and in the most harrowing language, the fatality and utter hopelessness of all attempts, past, present, and to come, to cure organic diseases of the ovaries by operation. He seized with avidity the intelligence communicated to him by the younger McDowell, and immediately requested an account of the cases for publication in the Eclectic Repertory, of which he was then one of the editors. He also read the cases to his class, who received them with the most rapturous applause.

The publication of the cases in the Eclectic Repertory elicited hardly any notice. Indeed, so far as could be ascertained, it encountered general incredulity, if not positive ridicule. The paper of Mr. Lizars, in the Edinburgh Medical and Surgical Journal, met with a better fate; for it at once attracted marked attention, and produced strong excitement throughout the medical circles of Europe; a circumstance which reacted with electrical force and rapidity upon the United States. The question of the reliability of the reported cases was at once thoroughly investigated and established; and the operation has since been repeatedly performed with success in nearly all parts of the civilized world. Ovariotomy is now one of the established resources of surgery; and for this boon our profession and mankind are indebted to Dr. Ephraim McDowell.

It is not positively known, even to his most intimate surviving friends, how often Dr. McDowell performed the operation of ovariotomy. Dr. William McDowell, who was a member of his family for nearly seven years, five as a student and two as a partner in practice, states that up to the period of his removal to Fincastle, Virginia, in 1820, his uncle had had seven cases, all, save one, successful. Six of these operations Dr. McDowell witnessed, and in two he handled the knife under Dr. Ephraim McDowell's direction. "I acted," he modestly adds, "in the capacity, as I conceived, of a sort of an amanuensis. In his first operation," continues this gentleman, "in 1809, Dr. James McDowell, who was Dr. Ephraim McDowell's nephew, partner, and brother-in-law, and a young man just commencing practice, used the knife under similar circumstances, as it respects the external incision. Dr. Ephraim McDowell had, at the time, determined to decline practice in favor of Dr. James McDowell. The death of the latter occurring shortly afterwards, changed the arrangement. Under the same circumstances, Dr. A. G. Smith, who succeeded me as a partner of Dr. McDowell, operated in two or three cases."

Dr. William A. McDowell informed me that he had reason to believe, from reliable testimony, that his uncle performed this operation altogether thirteen times, exclusive of the cases of Dr. Smith. He declared that he himself had been cognizant of two more successful cases: one, that of Mrs. Overton, of Tennessee, and the other, that of Miss Gilmore, of Pulaski County, Kentucky; making in all eight cures, respecting which there can be no doubt. Dr. McDowell's success does not seem to have been so great in his latter as in his earlier operations, but the precise ratio cannot now, unfortunately, be ascertained.

It may not be improper to state, in concluding the consideration of this part of Dr. McDowell's professional services, that an attempt was made, many years ago, to deprive him of the credit of his first operation, by ascribing the performance of it to his nephew, Dr. James McDowell, at the time his partner in practice. In consequence of this attack upon his veracity and pretensions to surgery, Dr. McDowell was induced, in 1826, to address a printed card to the "physicians and surgeons of the West, and particularly to the medical faculty and class at Lexington," in vindication of his claims. After remarking that he had visited Mrs. Crawford, the subject of the operation in question, at her residence in Green County, Kentucky, a distance of sixty miles from Danville, for the purpose of examining her case, and that she soon after came to his own house to undergo the operation of ovariotomy, he says: "My nephew, Dr. James McDowell, whom I had brought up, had graduated a few months before this time, in Philadelphia, and had commenced business as my partner. Being in delicate health at the time, it was my intention to remove to the country in the spring, or so soon as I could establish my nephew in business.

"From the time of Mrs. Crawford's arrival, he had made frequent attempts to persuade me from operating; but, finding my determination was fixed, he agreed to be present, but not until the morning I operated, and as my partner to assist; for should the patient die, the responsibility was all my own; should the patient live, it would assist him in his outset in business.

"The day having arrived, and the patient being on the table, I marked with a pen the course of the incision to be made; desiring him to make the external opening, which, in part, he did; I then took the knife and completed the operation, as stated in the Eclectic Repertory. Although the termination of this case was most flattering, yet I was more ready to attribute it to accident than to any skill or judgment of my own; but it emboldened me to undertake similar cases; and not until I had operated three times—all of which were successful—did I publish anything on the subject. I then thought it due to my own reputation and to suffering humanity to throw all the light which I possessed upon diseased ovaria."

It is not necessary that I should enter into a formal examination of the claims of Dr. McDowell as the author of the operation in Mrs. Crawford's case. The paper from which I have quoted the above extracts is accompanied by three certificates, all testifying to the truth of Dr. McDowell's statement. One of these certificates is from Mrs. Crawford herself; another from Mrs. Baker, one of her female attendants; and the third from Mr. Charles McKinny, a private pupil of Dr. McDowell, who, with Mrs. Baker, witnessed the whole proceeding. He states, expressly, that Dr. James McDowell made the external incision as directed by his uncle, and that then the latter took the knife and extracted the diseased ovary. He asserts, moreover, that he never heard Dr. James McDowell claim the credit of the operation. When we add to these facts, the statement of Dr. William A. McDowell, that he and Dr. Smith both assisted Dr. Ephraim McDowell, on several occasions, in the same manner, it follows, as a necessary corollary, that the claims set up in behalf of Dr. James McDowell, who is said to have been a young man of great professional promise, must fall to the ground as untenable.

I have endeavored to establish the claims of Dr. Ephraim McDowell to the operation in question, upon a firm and immutable basis. My only motive for so doing has been a wish to defend truth, to subserve the interests of surgical science, and to award credit where alone credit is due. How far I have succeeded in my effort let others judge.

But Dr. McDowell's claims to distinction do not, by any means, rest upon his exploits, novel and brilliant as they were, as an ovariotomist. He ranked also deservedly high as a lithotomist. For a time he was almost the only physician in Kentucky who performed this operation. In the latter period of his life he was eclipsed, in this branch of surgery, by his neighbor, Dr. Dudley, of Lexington, who, after the establishment of the Transylvania Medical School, for many years almost monopolized the stone cases in Kentucky and the adjacent States. It is not known how often Dr. McDowell performed this operation; but it is positively ascertained that he had, up to 1828, two years prior to his death, executed it thirty-two times, and that without the loss of a single patient. Such success is as rare as it is creditable to Dr. McDowell's skill and judgment. He confined himself to the lateral method, and early in life opened the bladder with the gorget, but afterwards made his deep incisions with the knife.

One of his most interesting cases, not from any peculiar circumstances or merit, but from the exalted position attained by the patient, was that of the late James K. Polk, afterwards President of the United States. This gentleman had suffered from symptoms of vesical calculus from an early period, and in his seventeenth year he was induced to visit Danville in search of advice. The operation was performed in the autumn of

1812, with Dr. McDowell's usual skill, and a happy recovery was the consequence. The calculus was of small size, very hard and heavy, with a rough, tuberculated surface. Mr. Polk carried it home with him, not in his bladder, but in his pocket, to show it to his friends and neighbors, with whom it was a source of great curiosity. In a letter, dated in Maury County, West Tennessee, December 3d, 1812, he informs his surgeon of the progress of his cure, and feelingly expresses his sense of gratitude for the services which he had received from him. This letter, as a specimen of literary composition, is far below mediocrity; it is badly spelled, and written in the worst style. In these respects, it is in striking contrast with another letter addressed to Dr. McDowell, nearly fourteen years afterwards, when Mr. Polk represented his adopted State in the Congress of the United States. In this communication, written with great accuracy, and even eloquence, Mr. Polk again expresses his gratitude to Dr. McDowell; speaks of the excellence of his health, and alludes to the manner in which he had spent his time since his recovery from the operation. "I have been enabled," he says, "to obtain an education, study the profession of the law, and embark successfully in the practice; have married a wife, and permanently settled in Tennessee; and now occupy the station in which the good wishes of my fellow-citizens have placed me. When I reflect, the contrast is great indeed, between the boy, the meager boy, with pallid cheeks, oppressed and worn down with disease, when he first presented himself to your kind notice, in Danville, nearly fourteen years ago, and the man at this day in the full enjoyment of perfect health." I take great pleasure in alluding to these letters of Mr. Polk. The career of that gentleman, and that of his surgeon, show how early obstacles may be vanquished by industry, and how perseverance enables men, from small beginnings, to attain to great ends.

Dr. McDowell performed numerous other operations, but of their nature I am not apprised; nor would it be necessary, if I were, to refer to them particularly here. His anatomical knowledge, courage and dexterity were sufficient to enable him to execute any operation that might have been required within the extensive circle of his practice. It cannot be supposed, for a moment, that the man who was the first to excise a diseased ovary, and who cut thirty-two patients for stone without a single failure, would shrink from the performance of any surgical duty, however novel or hazardous, provided he was certain that it was imperatively demanded by the circumstances of the case.

He paid much attention to the subject of hernia. He often operated successfully for the relief of strangulation, and performed many radical cures by means of the truss. His reputation in this branch of surgery attracted patients to him from a great distance. President Polk, early in life, was one of his subjects, and one of those who were permanently cured by his skill.

As a surgeon, Dr. McDowell was exceedingly cautious. He never undertook an operation until his own mind and the patient's system were prepared to his entire satisfaction. Notwithstanding his extraordinary accuracy in anatomical and surgical knowledge, he never operated, in any important case, without carefully reviewing the relations of the structures involved, and referring to the best surgical authorities in his library on the subject. His pupils were obliged to do the same thing, as well as to examine the case, and favor him with their opinion on it. His assistants were carefully selected, and regularly drilled, until, like so many Thespians, they perfectly understood their parts.

He was remarkably kind to his patients, sympathizing with them in their suffering, and encouraging them by tender and soothing expressions. His hand never quivered in an operation; nor did his mind quail; but his face flushed, and even in the depth of winter, the perspiration often started from every pore. Dr. Alban G. Smith, now Dr. Goldsmith, who knew Dr. McDowell intimately, and who is himself an excellent operator, writes me that he was the best operator he ever saw, in all cases where he had a rule to guide him. He always preferred to operate on Sunday mornings, saying that he liked to have the benefit of the prayers of the church.

He was an accomplished anatomist. He made it a business to dissect, more or less, every winter, and he took special pains, on such occasions, to aid his pupils in acquiring a knowledge of the human structure. Subjects were not always obtained, at that period, without trouble and even risk.

Dr. McDowell was no writer. The only contributions he ever made to medical literature are his first five cases of ovariotomy, in the seventh and ninth volumes of the Philadelphia Eclectic Repertory. It is a subject of deep regret that he should have felt, throughout the whole of his life, such a deep repugnance to the publication of the results of his experience. Extensively engaged as he was for so long a period in the practice of medicine and surgery, he must have accumulated a vast amount of knowledge, most valuable to the profession and to suffering humanity, and eminently conducive to the extension of his own fame. But such exercise was distasteful to him, and no remonstrance, on the part of his friends, could induce him to engage in it. Temporary notoriety and posthumous fame were subjects alike of indifference to him. He pursued the "even tenor of his way," and his habits were so confirmed that it was impossible to change them.

Dr. McDowell was an honorary member of several medical associations.

The Medical Society of Philadelphia, one of the oldest and most respectable institutions of the kind in the country, sent him its diploma in 1807. In 1825, he received from the University of Maryland, then in the height of its renown, the honorary degree of Doctor of Medicine—a distinction which was a full acknowledgment of his exalted reputation—and which afforded him genuine gratification, the more especially as it was unsolicited on his part.

Had Dr. McDowell lived in France he would have been elected a member of the Royal Academy of Surgery, received the cross of the Legion of Honor from the king, and obtained a magnificent reward from the government, as an acknowledgment of the services which he rendered his country, his profession, and his fellow-creatures. His own country, and especially his own neighborhood and State, failed to appreciate him. I am told by gentlemen whose veracity is indisputable, that but few of his immediate fellow-citizens were capable of drawing a just distinction between him and the merest charlatans in his vicinity. Such must ever be the fate of true greatness in all new communities. Dr. McDowell had the misfortune to live before his time; he was born in advance of his age.

He was a kind-hearted, amiable man, an urbane and accomplished gentleman, a benevolent physician, a warm and generous friend, an excellent neighbor, an affectionate husband, and an indulgent parent. His character, in all the relations of life, was most exemplary. Of a lively, social temperament, abounding in wit and pleasantry, he was the master-spirit and delight of every company which he honored with his presence. No man was ever more agreeable, more amusing, more unassuming. Frank in his manners, and easy of access, it was impossible to be a stranger in his society, or to leave his presence without a feeling of regret.

As a scholar he was entitled to no ordinary rank in comparison even with some of his most distinguished contemporaries of the learned profession of which he was a member. He was much devoted to study, especially in early life, and was a most admirable recitationist. He was fond of Greek and Latin, a knowledge of which he retained long after his return from Europe. But historical and belles-lettres literature occupied more of his time and attention than classical and scientific works. Burns and Scott were his greatest favorites. In his readings of these authors, he rolled the Scottish idiom upon his tongue in a manner perfectly indescribable. His recitations from Scottish dialogues, adapting his intonations to the supposed character of the speaker, were richer and more exciting than any theatrical exhibition.

He was fond of music, and sung a variety of odes and catches in Latin, English, and Scotch, in good taste and with fine comic effect. His favorite pieces—those of a comic and humorous character—he frequently accompanied with his violin, an instrument to which he was very partial, but upon which he was a poor performer. Like Themistocles, the Athenian, "he could not fiddle, but yet he could make a small town a great city;" he could achieve wonders in surgery, such as had never been achieved before; and thus immortalize his State and country.

His excellence in the Scottish dialect and melody is probably attributable to his summer rambles in Scotland, during the vacations of the medical sessions in the University of Edinburgh. In company with two of his classmates, Dr. Brown and Dr. Speed, of Kentucky, he perambulated a considerable portion of that "land o' cakes," much to their mutual delight and edification. They traveled on foot, each packing a change of clothes in a wallet. In the tour, Dr. McDowell met with several respectable members of his family connection, who recognized and received him as a clansman, pretty much after the style and manner of hospitality commemorated and immortalized by Burns and Scott.

The travelers were well provided with letters to distinguished personages "en route," who never failed to treat them with marked attention and respect. On approaching the residences of these individuals, they always hired a conveyance, and, riding up in due form and style, were received accordingly. They, however, if their entertainment was to their liking, soon "let the cat out of the wallet;" immediately upon which all formality ceased, and they were carried about, all over the neighborhood, either on horseback or in a coach, as they happened to fall in with a commoner or a "gig-man," and exhibited to all sorts of people as gentlemen from the extreme backwoods of America. It is very questionable whether the United States have had, at any time since, the good fortune to be more creditably represented in that ancient and interesting country; a trio of equal intelligence, of fine looks, wit, and good fellowship is rarely to be found anywhere.

After his return to Kentucky, Dr. McDowell frequently recurred, in terms of the greatest delight, to the happy hours spent in these peregrinations, recounting with peculiar glee the incidents which befell him and his backwoods companions. He ever after cherished a warm attachment for the Scotch, their beautiful and romantic country, and their noble scientific and charitable institutions.

His library was quite extensive for the period in which he lived, consisting of all the standard medical works, many of which he had brought from Europe. On the practice of physic he always procured and read the most celebrated authorities; more, says one of his pupils, on account of his students, of whom he always had a considerable number, than of his patients. He was an ardent admirer of Sydenham and Cullen, and never could appreciate any advances worthy of note upon these celebrated writers. With many of his contemporaries, he regarded the portraitures of disease, delineated by the hands of these masters, as inimitable. In his judgment, all other writers on the practice of medicine were mere bunglers and copyists; a decision in which nearly all intelligent professional men at that period concurred. He was in the habit of earnestly cautioning his students against too free a use of medicines. As a *secret*, he apprised them of his impression that the employment of medical drugs was more of a curse than a blessing to the human race, and that quackery perpetrated much more mischief and destruction by their means, than the science of the profession could counteract. In the surgical branch of the profession he took great delight; he characterized it as the *certain* branch of the healing art, and spared no pains to advance and perpetuate his knowledge of it. He does not seem to have had any particular fondness for the practice of medicine, as he always had a partner upon whom devolved most of this kind of business, especially after he had achieved some reputation as a surgeon.

His fees for surgical operations were regulated, as a general rule, by the ability of his patients. As might be supposed, from the extent of his practice, and from his benevolent disposition, he frequently rendered his services gratuitously. Pauper patients, no doubt, often went to him from a great distance, and McDowell would have been the last man to turn a deaf ear to their entreaties for advice and relief. To a humane surgeon, fully appreciating his duty, the claims of the sick poor appeal with irresistible force, proving paramount to every selfish consideration; they are his best subjects, because, in the language of Boerhaave, God is their paymaster, and because the expression of their gratitude is voluntary, not extorted by the hope of obtaining a small bill for services received from their professional attendants.

Occasionally his fees were large: in one instance almost princely. I allude to the case of Mrs. Overton, upon whom he performed the operation of ovariotomy, in the summer of 1822. This lady lived in the vicinity of the Hermitage, in Tennessee, the residence of the late President Jackson, and Dr. McDowell had agreed to operate upon her, at her own house, for five hundred dollars. He remained with her for some days, and on the morning of his departure, her husband, a highly respectable and intelligent citizen, gave him a check, as he supposed, for the stipulated sum, on one of the banks of Nashville. On presenting it, he discovered that it was drawn for fifteen hundred dollars, instead of five hundred. Presuming that a mistake had been made, he immediately dispatched his servant to the gentleman, who replied that no mistake had occurred, and that the services he had received from Dr. McDowell more than counterbalanced the sum he had paid him. Such generous liberality was alike honorable to the giver and to the receiver. So far as I know, this was the largest fee ever paid in this country for a surgical operation. Considering the value of money at that time in the Southwest, or, in other words, the cheapness of living, and the comparatively small compensation for professional services generally, it was fully equivalent to the celebrated fee of a thousand guineas paid by Mr. Hyatt, a West Indian merchant, for an operation performed upon him by Sir Astley Cooper.

Dr. McDowell was not wealthy; his estate at the time of his death was estimated at from forty to fifty thousand dollars. His mode of living was plain and unostentatious; he was always glad to see his friends, and to extend his hospitalities to them.

He was a man of enlarged and liberal views. He spent his money and his time freely upon charitable objects, and manifested great interest in advancing the prosperity of Danville, the scene of his professional labors and renown. Of Centre College, located at that town, and at present the most successful literary institution in Kentucky, he was one of the founders and original trustees; subscribing liberally toward its support.

Dr. McDowell was always a decided Christian in his feelings and conduct. At the time of his settlement at Danville, in the latter part of the last century, nearly the entire male population of the village was atheistically inclined; and not a few were of the Robespierreian school, having achieved the grand discovery that "death is but an eternal sleep." With these men he had no sympathy, though he was of too benevolent and tolerant a nature to fall out with any one for entertaining different tenets from his own.

In 1828 he united himself with the Episcopal Church, and granted a lot at Danville on which was afterwards erected the present church edifice of that town.

Dr. McDowell expired at Danville, on the 25th of June, 1830. His disease was inflammatory fever, terminating his life on the fourteenth day of the attack, in the fifty-ninth year of his age. For him death had no terrors, the grave no victory. He awaited his end with the patience of a Christian, and the calmness of a philosopher. He had "set his house in order," and met death with a serene and composed mind. From the very moment of his seizure he had a presentiment that he should not survive it.

To the professional pilgrim of the West it will not be uninteresting to know that the remains of Kentucky's first great surgeon repose in the family burial-ground of Governor Shelby, five miles from Danville. His tombstone, a plain slab of marble, bears the simple inscription of his name, "Ephraim McDowell."

In person, Dr. McDowell was nearly six feet in height, with a florid complexion, and very black eyes. He was of a remarkably happy disposition, and rather inclined to corpulency. Up to the very time of his sickness he was one of the most active men in Kentucky. As an illustration of his agility and muscular strength, the following anecdote, which he often narrated with special glee, affords a striking example. While he sojourned in Edinburgh, a celebrated Irish foot-racer, a sort of Mike Fink, arrived, boasting that he could out-run, out-hop, and out-jump any man in the city, and bantering the whole medical class. McDowell was selected as their champion. The distance was sixty yards, and the stake ten guineas; the trial took place in the College grounds, and the American purposely allowed himself to be loser. A second race, for one hundred guineas, and at an increased distance, came off soon afterwards, and this time the Irishman, after much bullying, was badly beaten, much to his own chagrin and the gratification of the students.

Dr. McDowell remained faithful to his profession until the last moments of his life. He literally died in the harness. A few months before his final illness, he commenced the building of a large and beautiful mansion in the country, two miles from Danville, where he had intended to spend the evening of his life, away from the cares and fatigues of a busy practice. Death, as has already been seen, frustrated this design. The mansion was finished, but was occupied by other tenants.

ART. II.—*Cases, with Remarks, from the Surgical Clinic of the Jefferson Medical College.*—Service of PROFESSOR GROSS.

Reported by EMIL FISCHER, M.D., of Philadelphia.

I.—*Two Cases of Spina Bifida; Treatment by Injections of Iodine; Death.*

Case 1.—James Grove, a healthy infant, aged eleven weeks, was admitted into the Clinic of the Jefferson Medical College, in October, 1859, on account of a congenital tumor over the lumbar region. The swelling, which at the time of birth had been as large as a walnut, had gradually increased to its present size, which was that of a large orange. It was of globular form, narrow at its base, and was situated in the median line, over the spinous processes of the last lumbar vertebræ. The integuments covering it were much attenuated, particularly at the top of the tumor, where they seemed ready to burst; they were reddened by capillary injection, the discoloration being most intense at the lower part of the tumor and around its margin. The tumor was translucent, and distinctly fluctuating; compression did not decrease its bulk; no impulse was imparted to the finger, placed on the fontanel, when the tumor was pressed, nor did the pressure produce any pain or convulsions.

The mother stated that the child had been born at full term, and had always enjoyed good health; it had perfect use of both lower extremities, and its urine and feces were under the power of the will. The head was of natural size, and there was no club-foot, or other deformity. The skin over the tumor had been, at some previous time, the seat of superficial ulceration. Professor Gross pronounced the case to be one of spina bifida, and taking into consideration that pressure upon the tumor did not produce any effect upon the nervous centres, and that the functions of the body were not disturbed to any appreciable degree, he judged that the orifice, by which the contents of the tumor communicated with the spinal canal, was but small. The prognosis, unfavorable from the nature of the disease, was rendered still more so by the rapid increase of the tumor, and by the highly attenuated state of the integuments which seemed to be on the point of giving way. The parents of the child being anxious to have something done for the cure of the disease, and being willing to run the risk of an operation, Professor Gross decided to treat the case by injections of iodine, according to the method proposed, and practiced with such encouraging results by Professor Brainard, of Chicago.

On the nineteenth of October, a puncture was accordingly made in the sound skin, about one inch and a quarter from the base of the tumor, by means of a flat, curved needle, and the instrument having been carried subcutaneously into the tumor, one drachm of its serous contents was allowed to escape; a solution of one-eighth of a grain of iodine and one quarter of a grain of iodide of potassium in one drachm of water was then injected by means of a small syringe, provided with a delicate, curved nozzle. A dressing of adhesive straps and collodion was applied over the puncture, but being found insufficient to prevent leakage, the puncture was closed by the twisted suture. The tumor was thoroughly painted over with collodion. Three drops of tincture of opium were administered to the patient, and directions were given to keep him lying on the face.

On the second day after the operation a small opening was discovered at the top of the tumor, from which there was a slight drainage. The child had had some convulsions during the previous night. To prevent the escape of more fluid the tumor was covered with several successive layers of cotton, painted over with collodion, until a sheath of about one-eighth of an inch in thickness was formed.

On the morning of the next day the tumor appeared to be less tense. The child had passed a comparatively comfortable night, and took the breast well. A dose of castor-oil was ordered to keep its bowels soluble. On the evening of the same day an escape of fluid from the tumor was again noticed, and was checked by another application of cotton and collodion. The dressing was, however, inadequate to control the discharge permanently, and on the morning of the fourth day the tumor was found leaking again; this time the fluid escaped from the point where the twisted suture was applied. The child had suffered from convulsions during the previous night; it had a haggard appearance, and seemed much sunken. Cotton and collodion were applied as before.

On the fifth day after the operation, the tumor burst completely, all its contents escaping suddenly through a large rent at its top. The child died under severe convulsions.

The autopsy was made twenty-four hours after death. Only the tumor was allowed to be examined. On laying the sac completely open, its lining membrane was observed to be highly injected, and coated with a thin layer of lymph, which in some places was softened and broken down. The opening by which the cyst communicated with the spinal canal was but of small size; it consisted of a cleft, about a quarter of an inch wide, involving the arch of the fifth lumbar vertebra, the spinous process of which was wanting. No nerve-twigs could be discovered passing out from the spinal canal into the interior of the sac.

Case 2.—Charles Lehmann, three months of age, was brought to the Clinic of the Jefferson Medical College, in October, 1859, on account of a tumor over the lumbar region. The child's health was excellent, and it was perfectly well developed in every other respect. The tumor was situated in the median line over the lower portion of the lumbar region, projecting somewhat over the sacrum. It was globular, about as large as a medium-sized billiard ball, translucent, fluctuating, and elastic. The skin covering it was not discolored, but thin and shining, although by no means as attenuated as in the case reported above. Upon pressure, the size of the swelling was slightly diminished, but no fluctuation could be perceived at the fontanels. The child moved its lower extremities convulsively wheneverer the tumor was touched with any degree of force. At the time of birth the tumor was flabby, soft, and hardly half of its present size. Its enlargement had taken place very gradually. The child had the perfect use of its limbs, and all the functions of the body were regularly performed. Considering the more advanced age of the child, the smaller size and slower growth of the tumor, and the more favorable condition of the integuments, this case seemed to be better suited to the treatment by iodine than the preceding, and Professor Gross, therefore, on the 19th of October, 1859, threw into the swelling, the puncture having been made as in the other case, a drachm of water, containing one-eighth of a grain of iodine and the fourth of a grain of iodide of potassium. The puncture had to be closed by the twisted suture, a very delicate cambric needle being used, and the whole tumor was thoroughly coated with collodion. As in the other case, the recumbent position on the abdomen was enjoined, and was carried out as well as possible.

In the evening after the operation the child had slight convulsions, which were relieved by three drops of laudanum. The operation was repeated on the twenty-sixth of October, and again on the second of November, by which time considerable diminution in the volume of the tumor had taken place. From the latter date to the twenty-third of December, when the case terminated by death, the injections were thrown in every fourth or fifth day, the quantity of iodine being increased to one-sixth of a grain. Collodion was applied twice a day, and just before the patient died the tumor had diminished two-thirds, leading Professor Gross to suppose that the case might soon terminate in a cure. The child rarely suffered from convulsions after the operations, and they always readily yielded to a dose of castor-oil. Whenever there was pain, a few drops of laudanum were administered, with a happy effect.

The child died in convulsions on the twenty-third of December, the tumor having burst and discharged its contents. An autopsy was made at the expiration of sixteen hours. The cavity of the sac was found to be about one-third obliterated by coagulated lymph. The fissure involved the posterior portion of the last lumbar vertebra and the first piece of the sacrum, but the arachnoid on each side of the fissure was covered with lymph, which caused the gap to be of smaller size than it was originally. Had the patient lived a few weeks longer, a cure might possibly have resulted.

Remarks.—On presenting these cases to his class, Professor Gross made the following remarks: The two cases which at present engage our attention exhibit a form of congenital malformation, known to pathologists by the name of *hydrorachitis*, or *spina bifida*. It consists of a fluid swelling, constituted by the membranes of the spinal cord, which are distended and protrude backward through a congenital cleft of the vertebral column.

This affection, which is closely analogous in its character to congenital hydrocephalus, with which it is frequently associated, is attended with an abnormal collection of fluid within the membranous sac of the spinal column, from which it has received the name of hydrorachitis, or dropsy of the spine. Whether this collection of fluid is owing to inflammation of the membranes of the spinal cord, disturbances in the nutrition of the part, or other causes operating during intra-uterine life, it is impossible to say. The most common seat of the serous effusion is the sub-arachnoidean space, the fluid of which is thus augmented beyond its normal quantity, and may amount from a few ounces to several pounds. In some exceedingly rare cases the exudation has been found to occupy a space between the dura mater and the bony walls of the vertebral column. The fluid in hydrorachitis is generally of a thin, limpid character, slightly saline in its taste, and almost uncoagulable. Sometimes, however, it is glutinous, yellowish, sanguinolent, or contains flakes of lymph and particles of pus, appearances which are attributable to secondary processes of an inflammatory character.

Although dropsy of the spine is accompanied, in the generality of cases, by more or less extensive malformation of the vertebral column, it may exist without any such malformation. In the latter case, the vertebral column remaining in a normal condition, the disease may not give rise to any outward deformity, or it may, as has been observed in some very rare instances, cause a sac, formed by the membranes of the spinal marrow, to protrude between two transverse processes from the canal, in the cervical or lumbar region, and to effect a lodgment immediately underneath the external integuments.

The malformation of the spine with which the affection is usually attended, and from which it has received the name of spina bifida, consists in a deficiency of the vertebral rings, owing to an arrest of ossification, and may be compared to those defects which originate from a want of union of the two halves of the fœtus during utero-gestation, such, for instance, as hare-lip and cleft palate. It may be arranged under the following heads: 1. Division of the entire vertebra, even of its body. 2. Partial or complete absence of the lateral arches. 3. Perfect development of the lateral arches with want of union at the median line. In the highest degree of spina bifida the anomaly involves the whole length of the vertebral column, and is then generally associated with extensive destruction of the spinal marrow. In the more common cases, however, such as are likely to come under the observation of the surgeon, the cleft in the spinal canal is but partial, affecting usually the lumbar region, occasionally, however, the dorsal, cervical, or even the sacral. The protrusion of the membranes of the spinal marrow through this cleft generally takes place during fœtal life; in some instances it does not occur until some weeks or months after birth. The tumor varies much in size, being sometimes so small as to be hardly perceptible, at other times attaining the size of a child's head; a variation which seems to depend, in a great measure, upon the smaller or greater extent of the cleft. Usually the swelling does not exceed the size of an orange. In its form it is globular, ovoidal, or pear-like, with a short and more or less constricted neck. The anatomical composition of the walls of the tumor is variable; their outer layer is generally constituted by skin, which is commonly very smooth, delicate, and thin, sometimes, however, retaining its normal thickness, or becoming red, rugose, and horny; their inner layers consist of the membranes of the spinal cord. In other, more rare cases, the skin is entirely wanting, and the walls are formed by the spinal membranes alone, which may be either in their natural condition, or may be red, swollen, and thickened. The contents of the tumor, consisting principally of the fluid described above, communicate with the subarachnoidean fluid contained in the vertebral canal. The swelling is usually formed of a single cyst, but there may be several, as in the multilocular variety of ovarian dropsy. Virchow, Gläser, and others describe, as congenital cystic hygroma of the sacral region, a tumor which sometimes attains a very large size, but is still in some cases curable by an operation; it is usually very complicated in its structure, and is accompanied by a cleft or incomplete development of the sacrum, but, in spite of it, does not generally communicate with the vertebral canal.

In very slight cases of hydrorachitis, the spinal marrow and the nerves originating from it are not all affected or changed. In many cases, however, the spinal marrow is flattened, and sometimes deviates from its accustomed route, being forced through the opening in the vertebræ, and partially contained in the swelling. The nerves are always more or less displaced; sometimes they are dragged out of the canal, and distributed over the inner surface of the cyst in a plexiform manner. The textural changes to which the spinal marrow is subject in hydrorachitis are various; it is often very much softened, or converted into a thin, diffluent mass; sometimes it has been found abnormally hard; sometimes it is not as large as in the natural state. These pathological changes are in most cases confined to those parts of the spinal cord which correspond with the seat of the cleft in the vertebral column. In some cases of hydrorachitis the spinal marrow may suffer more or less from arrest of development; instances are met with, though of rare occurrence, in which the central canal existing in the spinal marrow during fœtal life remains open, and is distended by serous effusion. In the most serious cases the spinal cord is in part, or in its entire length, wanting, either because it has not been developed at all, or because it has been destroyed or absorbed by the fluid collected in the subarachnoidean space; in the latter case, the contents of the sac contain occasionally fragments of the spinal marrow admixed with them.

Congenital hydrorachitis is, in the generality of cases, associated with congenital hydrocephalus; the latter affection being usually proportionate in degree to the former; in the highest forms of hydrorachitis, where the spinal marrow is completely absent, the brain is also generally wanting. Other congenital defects, with which hydrorachitis may be complicated, are hypospadias, extrophy of the bladder, imperforate anus, and hare-lip. Club-foot and similar deformities of the lower extremities are a very frequent complication. In some cases spina bifida is the only lesion, and the rest of the body is in a perfectly normal condition.

It would be interesting to know whether the cleft of the vertebral column is the primary, and the hydrorachitis the secondary affection, or whether the reverse is the case. The fact that a moderate deficiency in the vertebral rings, or a small cleft in the sacrum is sometimes found on dissection in subjects without any signs of hydrorachitis having ever existed, that the protrusion of the spinal envelopes does occasionally not take place until some time after birth, and that the tumor becomes larger and larger the longer it continues, seem to speak in favor of the first view; while the frequent coexistence of hydrocephalus with spina bifida, and the circumstance that the one will subside greatly while the other increases, and that plates of cartilage, constituting the laminæ, are not rarely found in the tissues covering the tumor, seem to indicate that the arrest of ossification is owing to the distention of the sac of the spinal column by the serous effusion. It is probable that in all cases, where the spinal marrow is destroyed, or has suffered important changes in its structure and course, a hydrorachitis was the primary affection; while in those cases where there is a protrusion of the spinal membranes alone, and the spinal marrow is in a normal condition, the lesion is secondary to the affection of the osseous parts.

The *symptoms* of hydrorachitis during life depend, principally, upon the situation and size of the tumor, the condition of the spinal marrow, and upon the complications which are present. The tumor, of which the situation, size, form, and external appearance have already been described, is either soft, flabby, and fluctuating, or it is full, hard, and shining. If it is of large size, it is often transparent. At its base, the bony margins of the cleft in the vertebral column can sometimes be distinctly felt. The swelling increases slightly during expiration, as well as crying and defecation in the vertical position, and diminishes during inspiration and rest; these symptoms, however, may be absent, if the communication with the spinal canal is very small. When pressed upon, the tumor gradually diminishes in volume, or completely recedes, but on removal of the force, the fluid reaccumulates, and the part regains its previous bulk. Pressure is painful when the external integuments or the inner wall of the tumor is inflamed, or when the tumor contains spinal marrow and nerves. In the latter case it may produce convulsions of the lower extremities. If the opening in the spinal canal is large, if hydrocephalus is present, and the fluid contained in the sac communicates freely with the cerebro-spinal fluid, pressure upon the tumor affects the fontanels, which are rendered prominent, and may produce general convulsions, symptoms of paralysis, and sopor. This effect of pressure will not, however, be noticed, if the neck of the sac is very small. In all cases where the disposition of the spinal marrow and its connection with the tumor is of a description that it may be easily irritated by pressure, by movements, and other external influences, general convulsions are apt to occur, and there may be contraction and rigidity of the lower extremities. When the pathological changes from which the spinal marrow has suffered are very considerable, or when there is great pressure upon it from fluid, the extremities may be paralyzed, cold, and emaciated, and there may be palsy of the sphincter muscles of the bladder and rectum. In most cases the general health of the children is seriously impaired; they become feeble, pale, and emaciated, vomit frequently, digest badly, are liable to suffer from inflammation of the urinary organs, and from ulceration of the skin and excoriation, and are disturbed in their sleep by pain. Some of the patients fall, a short time before death, into a state of stupor. Sometimes, however, if the disease is developed but to a moderate degree, it may remain without any influence upon the rest of the body.

Congenital hydrorachitis is nearly always *fatal.* In the highest degrees of the disease, when the cleft implicates the whole length of the vertebral column, and the spinal marrow and the brain are completely destroyed, or when there is destruction of a considerable part of the spinal marrow, the fœtus loses its vitality at an earlier or later period of intra-uterine life, and is prematurely expelled. If the child attains full development it may die during labor in consequence of sudden rupture of the sac, or because the large size of the tumor proves an impediment to the termination of labor. If the children are born alive, they may die sooner or later in consequence of the sudden escape of the contents of the tumor, the sac being opened either by ulceration, accident, or design; death, under these circumstances, is owing to convulsions from the pressure being taken off the brain in consequence of the loss of the cerebro-spinal fluid. In other cases the fatal termination is brought about by inflammation of the sac, which may extend to the membranes of the spinal cord, and even of the brain, or by convulsions. When the case is associated with hydrocephalus, paralysis of the inferior extremities, or involuntary discharge of the urine and feces, a speedy death is likely to ensue. Few children, affected with hydrorachitis, survive their birth longer than five or six months, while many perish in a much shorter time. It is true, life has sometimes been sustained until the age of puberty, and in one case, until the fifty-fifth year; but such instances are altogether of an exceptional character.

In the *treatment* of hydrorachitis, the use of internal remedies is of no avail, except to combat some of the intercurrent symptoms which may arise. How little is gained by external surgical treatment, experience has sufficiently shown. There is not the least prospect of success from surgical interference, whenever the disease is complicated with a high degree of hydrocephalus, or with other malformations of a serious character, when there is more than one tumor present, when the swelling has a broad base and is not covered by normal skin, when there are symptoms of the spinal marrow being much affected, or having prolapsed together with nerves, into the tumor. On the contrary, when the tumor has a narrow pedicle, is small, painless, completely covered with sound skin, when it seems to contain but little fluid, and is situated over the lower part of the vertebral column, there is a reasonable hope that a cure may occasionally be obtained.

Of the various modes of treatment devised for the cure of hydrorachitis, that by compression is perhaps one of the safest and best. It may be applied by means of a cup-shaped truss, lined with an air-cushion, so as to diffuse the pressure equally over the entire swelling; or the tumor may be painted over repeatedly with collodion, and the action of the latter aided by a common roller or adhesive straps. Several cases are reported in which a cure was obtained by a combination of methodic pressure with frequently repeated puncture; the latter is to be made subcutaneously with a very fine trocar or bistoury, the opening being well closed immediately afterwards, to prevent the introduction of air. Only a portion of the fluid should, however, be drawn off at a time, as a sudden evacuation of the tumor would be followed by the serious consequences already described. Sir Astley Cooper, early in life, treated successfully a case of cleft spine with compression alone, and, at a later period, succeeded in curing two cases by combining this method with repeated punctures, as proposed by Mr. Abernethy; in one of these cases the treatment was carried on during eighteen months, the tumor having been punctured thirty times before a cure was obtained.

The introduction of a seton, excision, or even simple incision of the tumor are nearly always followed by speedy death, and should never be attempted. The plan of tying the base of the tumor with a ligature, suggested by Benjamin Bell, with a view of removing the swelling and resisting the further propulsion of the spinal membranes, has been followed, in those cases in which it has been tried, by so little success, that there is no encouragement for its repetition. The patients died either from convulsions immediately after the operation, or a short time afterwards from an extension of the inflammation to the spinal cord and its membranes. The application of the ligature can be proper only in those very rare cases where the sac has a very narrow pedicle, and the aperture of communication is exceedingly small, but even under these circumstances the treatment by systematic compression, combined with repeated puncture, would be preferable, as it is connected with less risk to the patient, while offering at least equal chances of success. An instrument, resembling somewhat an enterotome, has been invented, in order to compress the base of the tumor, but has hardly any advantage over the ligature, upon the principle of which it acts. Excision of the tumor after ligation of the pedicle, and the application of the actual or potential cautery for the purpose of exciting adhesion between the opposing surfaces of the sac, are procedures which are generally followed by a fatal result, and are by no means to be recommended. The treatment of hydrorachitis by injection of iodine, as practiced in the two cases reported above, has been applied by different surgeons with various success. Professor Brainard of Chicago, by whom this treatment was first instituted, gives (*Chicago Medical Journal*, September, 1859, p. 517,) the result of ten cases treated in this manner; they occurred partly in his own practice, partly in that of Dr. Crawford, Chassaignac, Velpeau, and Nélaton. Of these ten cases, five, it is alleged, were cured, three died, and in two the results remained uncertain. The principal objection to this plan of treatment is, that it is impossible to circumscribe the resulting inflammation sufficiently to prevent it from spreading to the spinal marrow and its membranes.

In those cases of hydrorachitis, finally, in which surgical interference is deemed improper, the tumor should be protected, by a proper contrivance, from pressure, friction, and contact with the excretions; astringent lotions, fomentations, and ointments may be tried, with a view of producing thickening and shrinking of the walls of the sac, and tincture of iodine may be applied in order to promote absorption of the contents of the tumor.

III.—*Foreign Body in the Right Bronchus; Tracheotomy; Removal and Recovery.* By JOHN M. ADLER, M.D., of Davenport, Iowa.

W. H., aged seven years, while playing with a piece of pipe-stem held in the mouth, during an inhalation sucked it into the glottis. Severe spasmodic cough followed, nearly suffocating him; and, while his mother ran for medical aid, one of the neighbors, in making an effort to extricate the foreign body with the fingers, forced it into the larynx, from which it fell immediately into the trachea.

Various measures were at once resorted to with a view to its removal, including the use of emetics, the introduction of the probang, inversion of the body, and other means; and during a violent spasm of coughing, it was supposed that the foreign body had been ejected from the air-passages and swallowed. Continued dyspnœa and suffocative cough, however, subsequently gave unmistakable evidence that such was not the case.

On Saturday, the nineteenth of May, six days after the accident occurred, I was called to see the patient, and found him half reclining on a couch, breathing with great difficulty, pulse 140 to 160, countenance anxious, skin hot and bathed in profuse perspiration. Careful auscultation at once revealed the existence of the foreign body in the right bronchus, the upper end projecting above the septum, and almost preventing the entrance of air into the left lung. There was nearly an entire absence of respiratory sounds in the right lung, but occasionally a hoarse, hissing noise was preceptible as the air was forced through the hole in the pipe-stem or found its way past the obstruction. If inclined to the left side, the dyspnœa was greatly increased and the passage of air into the lung of that side almost entirely obstructed. When turned on the right side, the symptoms were less urgent, the air passing into the left lung with greater freedom. From the description of the piece of pipe-stem, given by the parents, and the signs revealed by auscultation, I concluded that the position of the foreign body was such as has been above stated. As repeated attempts had been already made to remove it by inversion and succussion of the body, it was at once decided that tracheotomy would be the only chance for relief to the patient.

The consent of the parents being readily given, on the following morning, assisted by Drs. Fountain, Maxwell, Baker, and Tomson, the operation was performed. Chloroform was administered until perfect insensibility was induced, and the head being thrown well back over the end of the table, an incision, nearly two inches in length, was made from the cricoid cartilage toward the sternum. The muscles were carefully separated along the raphé, and the isthmus of the thyroid gland, which was prolonged far down over the trachea, was divided to the extent of three or four lines. The vessels were carefully held out of the way by blunt hooks, and the trachea thoroughly bared to the extent of little over an inch. There was no hemorrhage, except from the division of the thyroid body, which was promptly checked by the application of Squibb's solution of persulphate of iron. The larynx being fixed by the forefinger of the left hand, at the moment of expiration, with a narrow, sharp-pointed bistoury, four rings of the trachea were divided, the slit being fully an inch in length. The breathing through the new opening soon became regular and easy, and a slender pair of gullet forceps were carefully passed along the trachea toward the right bronchus. The end of the forceps came immediately in contact with the pipe-stem, grating against which, it slid readily into the left bronchus. Several attempts were then made to get hold of the pipe-stem, but failed, owing to the difficulty of expanding the blades of the instrument sufficiently to grasp it, as well as from the stony hardness and the roundness of the foreign substance. A partial hold upon it was several times effected, but the blades of the forceps as repeatedly slipped from it. Various other instruments were then used, but without success. The trachea was quite tolerant of their introduction, though during the whole time of their remaining in it continual coughing interfered much with the precise manipulation required to grasp and remove the foreign body.

All our efforts at extraction having failed, it was determined to leave the patient awhile, and to trust to the efforts of nature in loosening the foreign body by suppuration, and its being thus spontaneously expelled or rendered more easy of removal. He was therefore left until the next morning, with proper directions to the parents as to treatment.

In the morning his condition was much more alarming; pulse 150 to 160; mucous râles throughout the left lung; the right engorged, dull on percussion, and the entrance of the air into it apparently quite stopped; had passed a very restless night, and was much prostrated.

Assisted by Dr. Maxwell, efforts were again made to get hold of the foreign substance, which was easily accomplished by means of a wire hook, but we failed to remove it. The case appeared almost hopeless, but as it was evident that unless the obstruction was relieved, the patient would certainly die, it was determined to make another and final attempt in the evening.

About 6 P.M., assisted by Dr. Tomson, the patient was placed in the proper position, and similar attempts at extraction again made, which finally resulted in success. The instrument used was simply a loop of iron wire. The method of employing it will be readily understood by reference to the familiar process of removing, with a loop of twine or wire, a cork from an empty bottle. The loop was passed along and beyond the pipe-stem and then withdrawn, bringing the pipe-stem caught in the loop, which passed around the end, the sides of the loop at the same time steadying the foreign substance in its passage through the trachea. The pipe-stem measured one inch in length, and nearly five-sixteenths of an inch in diameter.

Immediate relief of the dyspnœa resulted; the slit in the trachea was closed with adhesive strips, and directions given to remove them in case it should become much obstructed during the night by the profuse mucous secretion from the lungs. Some light broth and a full opiate were administered. On the following day the wound was closed with four hare-lip sutures.

Perfect quiet, with strict antiphlogistic treatment, was followed for several days. Antimonials, with the tincture of veratrum viride, and the application of a large blister on the right side, soon successfully controlled the resulting inflammation of the lungs, and the patient made a speedy recovery.

In fourteen days from the time of the operation the wound was perfectly healed, with scarcely a perceptible cicatrix, and the little fellow was running about with his playmates as well as ever.

ART. IV.—*A Case of Procidentia Uteri, followed by violent Metritis and Peritonitis; Recovery.* By GUSTAVUS G. ROY, M.D., of Essex County, Virginia.

ON the morning of the 29th of April, 1860, I was called very hurriedly to see a negro woman in labor with her fourth or fifth child. On my arrival I met at the door the midwife, who had been with the patient during the night, when she addressed me, as well as I remember, in the following words: "Doctor, we've got a very ugly case; the womb is entirely out, lying on the bed between the patient's legs." I thought if such be the truth we have indeed rather an "ugly case," but I hastened to the bedside of the patient, and, upon examination, found the statement of the old woman very nearly correct.

The patient's condition I found to be one of those rare cases of procidentia uteri so graphically portrayed by Prof. Charles D. Meigs, in his Treatise on Obstetrics, page 101, a representation of a case of which he gives in fig. 40 of the same page. The vagina was as completely inverted as I ever saw the finger of a glove, and the os uteri, grasping the head of the lifeless fœtus, was plainly visible to the eye. At least two-thirds of the gravid womb was projecting, forming a very unsightly tumor, the epithelium of which, from the contact of irritating air, and too frequent handling of the mass by the midwife, had become very dry and the organ very sensitive. The pains were sufficiently good to have expelled the contents of the womb under ordinary circumstances, but the bearing-down efforts of the patient could avail but little to a womb without the axis of the pelvis and entirely beyond their reach. This was sufficiently clear from the fact that whenever I would replace the tumor the very next pain or effort would return it to its unnatural position.

The child being dead, and there seeming to be an utter impossibility of its being delivered by the unaided efforts of the womb, I endeavored to extricate its compressed and deformed head from the grasping fibres of the cervix uteri, which alone seemed to hold it.

With some difficulty I introduced the index finger of each hand between the lips of the os and the sides of the child's head just above its ears, and, steadying the mass with the three remaining fingers and thumb, by compressing the bones of the head, and at the same time making lateral motion, I succeeded in releasing the head, after which the labor was a quick and easy one. A few minutes after the delivery of the fœtus there was a slight contraction of the womb, which brought away the placenta, and with it a large flow of blood. I immediately introduced my right hand into the womb, supporting the mass with my left, returned it and held it in situ until it contracted sufficiently to put a stop to the hemorrhage. After this there was no unnatural or unmanageable flooding, but the "after-pains" were troublesome, and had to be quieted to prevent their again inverting the vagina.

Having directed a little nourishment, and most strenuously enjoined rest and quietude, I left the patient, with the request to be immediately informed should any untoward symptom present itself. Three days afterwards, I was summoned to visit her, when I found her in a most critical condition.

The following symptoms presented themselves: acute pain upon pressure over every part of the abdomen; very great tympanites; strong disposition to diarrhœa; nausea; troublesome hiccough; tongue coated, dry and cracked, and very red around the edges; pulse quick and corded; countenance desponding; lower extremities drawn up, with great pain when extended; kidneys and bladder deficiently performing their duties.

Treatment.—Venesection was resorted to until a decided impression was made upon the heart's action, then a large blister was placed over the entire tender surface of the abdomen, which, in order to keep up the vesication, it was necessary to reapply several times. Warm hop poultices were kept constantly over the blistered surface. This plan was rigidly enforced. Internally.—One-fourth of a grain of calomel and one grain of opium were administered every hour, until the bowels were quieted, pain relieved, and rest secured; and a mixture of sweet spirits of nitre, spirits of turpentine, and effervescing citrate of potassa, was directed every four hours. The opium had the desired effect of locking up the bowels, which were permitted to remain unmoved for three days; then a moderate dose of castor-oil was given, which it was necessary to assist with enemata. Several good evacuations were secured, which greatly diminished the tympanites; but pain and tenderness over the abdomen were still very great. Calomel and opium were again resorted to in the same proportion for the same purpose, and with the same result. On the third day several healthy evacuations were secured, with great diminution of the tympanites, pain, and tenderness. After this the calomel and opium were only given as indications required. The stomach now being quite retentive, a mixture of spirits of turpentine, muriate of ammonia, and infusion of serpentaria was directed every four hours. This prescription, together with the blisters and fomentations, was continued until the redness of the tongue, dryness of the skin, fever, and abdominal tenderness disappeared. Mild astringent injections were used to check the unhealthy discharges from the womb, and the patient put upon a course of tonics, under which she slowly improved. I have said nothing of the use of the pessary, because the violence of the inflammation precluded it; in fact, it was unnecessary, as the patient could not, had she the inclination, leave the supine position. As is natural to suppose, it is now necessary for her to use the pessary to keep the womb in situ, for which purpose the gutta-percha ring has been suggested.

ART. V.—*Grave Sequelæ of a Renal Calculus.* By W. H. TRIPLETT, M.D., of Woodstock, Shenandoah County, Virginia.

ON the 1st of September, 1859, I was called to see Philip Sheets, a farmer, fifty years of age, who was attacked with hematuria and retraction of the left testicle, with considerable pain along the spermatic cord and in the left lumbar region, and a tickling sensation at the end of the urethra. His pulse was eighty, appetite unimpaired, and the functions of the skin were performed naturally. Supposing the presence of a calculus in the pelvis of the kidney, or, more likely, traversing the left ureter, I ordered him a mild aperient, followed by a Dover's powder at bedtime. Under this treatment, continued for several days, the suffering was much alleviated and the urine assumed its natural color, having an acid reaction and a specific gravity of 1·020.

In the course of four or five days symptoms of vesical irritation set in, indicating that the calculus had traversed the ureter and become lodged in the bladder. Constant and most urgent desire to urinate was a distressing symptom, and the act caused the patient great pain, especially when the flow of urine was interrupted by the calculus blocking up the orifice of the urethra. The testis at the same time was very large, hard, and painful, and there was an erysipelatous blush of the scrotum over the affected gland. The skin was dry and hot, the pulse eighty-three, and there was loss of appetite and sleep. A vigorous saline cathartic was administered, cold medicated lotions were applied to the scrotum, and blue mass was given in small doses at short intervals. Active treatment did not, however, yield its equivalent of benefit; for although the orchitis was checked, the organ still remained indurated and enlarged, and micturition was attended with pain. For the latter condition, an infusion of flax-seed and uva ursi was found to afford more relief than any other remedies.

On the tenth of September I found him complaining of pain in the region of the prostate gland, and, upon an examination, I detected a fullness of the perineum over the organ. On the previous evening he had had a rigor; his pulse was frequent and intermitting, and his tongue deeply furred, and I was apprehensive that these signs were denotive of prostatic abscess. Subsequent events confirmed these fears. Quinine and opium were now freely given, and in seventy-two hours the abscess burst into the rectum, forming a recto-vesical fistule, discharging large quantities of thick, yellow pus, but at no time did urine seem to escape from the anus. This secretion was highly charged with pus, or, more correctly speaking, there was scarcely any discharge of urine at all, the bulk of the discharge through the urethra being a mixture of pus and mucus. The escape of pus from the urethra and rectum clearly denoted the formation of a fistule, although no urine could be detected flowing from the latter outlet. During this stage of renal excitement, however, it is proper to state that not a pint of urine was secreted in a week, and that was highly ammoniacal, and remained so for some time subsequently. When the abscess had discharged its contents there was an amendment in all the symptoms. The pulse returned to its natural standard, the appetite improved, and the patient was refreshed by a sound sleep.

The history of this case beautifully illustrates the trite principle in pathology, that two severe inflammations cannot go on at the same time. When the symptoms of prostatic disease were strongly expressed, the inflammation of the testicle began to abate, and was reduced to a certain point, where it remained stationary until the maturation of the former affection and the bursting of the abscess, when it resumed its line of march, and, notwithstanding every effort, progressed through all its stages. The nodulated testicle softened at many points, and opened on its posterior surface, when in the course of a week it was nearly well.

What became of the calculus it is impossible to say, since the most careful exploration of the bladder with a sound, and repeated examinations of the discharges, failed to discover it. My own supposition is that it has either become sacculated, or dropped down into the vesical orifice of the fistule.

Bi-Monthly Abstracts;

OR, BI-MONTHLY NOVELTIES IN MEDICAL, PATHOLOGICAL, SURGICAL, OBSTETRICAL, PHYSIOLOGICAL, AND CHEMICAL SCIENCE.

SURGERY.

BY S. W. GROSS, M.D.,

LECTURER ON SURGICAL ANATOMY AND OPERATIVE SURGERY, PHILADELPHIA.

I.—*On Iridectomy in Glaucoma.* By J. W. HULKE, F.R.C.S., (Medical Times and Gazette, July 21 and September 1, 1860,) and by W. BOWMAN, F.R.S., (Medical Times and Gazette, August 25, 1860.)

THE operation of iridectomy, consisting in the removal of a portion of the iris, was devised by Dr. A. von Graefe, of Berlin, to relieve permanently the intra-ocular pressure which always exists in the different stages of glaucomatous disease. This pressure, leading to great tension of the globe of the eye, gives rise to intense pain and a dilated and fixed condition of the pupils, which present a greenish hue, and is followed, sooner or later, by paralysis and congestion of the retina, excavation of the optic nerve, and inflammation, acute or chronic, of the component tissues of the eye, leading to their degeneration, and finally to complete loss of sight. The indications, therefore, are to restore the natural equilibrium of the circulation, and to prevent the destruction and compression of the retina, by removing the intra-ocular pressure. For this purpose, iridectomy, so warmly advocated by Graefe, Donders, Arlt, Bader, Hulke, Bowman, Critchett, and other experienced ophthalmic surgeons, is, in their opinion, the only resource, and they maintain that, until this process was adopted, all other forms of treatment proved useless in this disease. On the other hand, Hancock, Middlemore, Desmarres, and others, to accomplish the same object, drain off the excess of the fluid by means of puncturing the sclerotica; and between the surgeons of the two different schools a warm discussion has been, and is still being carried on, in relation to the merits of the two methods.

The operation of removing a portion of the iris is usually very simple. An incision is made at the junction of the sclerotica with the cornea, close in front of the iris, and a portion of this membrane is excised from its pupillary margin to its insertion, to the extent of a fifth or sixth of its circuit. The small quantity of blood which escapes into the anterior chamber must be removed either by gentle pressure or by means of a curette, and a wet cloth should be applied to the eye. Iridectomy may be performed either above or below, but the former is preferred on account of there being less disfigurement from the resulting coloboma of the iris.

[We have no experience with this operation, but we entirely agree with its opponents that it does not possess any of the advantages claimed for it by its inventor and his followers. How the removal of a portion of the iris acts otherwise than the more simple operation of paracentesis of the sclerotica, in relieving the intra-ocular pressure, we must confess we are unable to comprehend. To use the language of the caustic reviewer of the procedure, in an article entitled "Medical Epidemics—Glaucoma and Iridectomy," in the *Dublin Quarterly Journal of Medical Science* for August, 1860, and in whose views we, in the main, agree: "But then, we are told, it is not the mere letting out of the vitreous or aqueous fluid, but the cutting out of a portion of the iris, that relieves the pressure and effects the good. We are stupid enough not to see this in the same light as our neighbors. No doubt a wound made for the removal of a portion of the iris, even if none of that membrane remains in it, will not close so accurately nor heal so quickly as a puncture made by a broad needle; but if the pupil is free, the iris cannot by its presence or its bulk exercise any pressure on the optic nerve." In the second edition of his treatise on the diseases of the eye, Mr. Dixon, whose opinion is entitled to the greatest respect, refers to the operation in the following terms: "For myself, I may state that, although I could not recognize as sound the theory upon which the operation was brought forward as a cure for glaucoma, I tried it in a series of carefully-selected and well-marked cases of the following forms of disease: 'amaurosis with excavated optic nerve,' as Graefe has termed a peculiar morbid condition; chronic glaucoma, where the lens had not yet lost its transparency; and in cases of acute glaucoma, characterized by sudden impairment of sight, rapidly followed by inflammation of the eyeball, dilated and fixed pupil, severe neuralgia, and total loss of vision. In neither of the two first classes did I find—nor had I expected to find—any improvement to result. Nor in the third class was sight restored; but the inflammation seemed to be arrested, and the neuralgia was either very much lessened or it wholly ceased. I cannot, however, attribute this result to the removal of a portion of the iris, but merely to the evacuation of the aqueous humor through the large corneal wound."]

II.—1. *Inguinal Aneurism Cured by Digital Compression.* By W. C. NICHOLS, M.D. (New Orleans Medical and Surgical Journal, Sept., 1860.)

2. *Popliteal Aneurism Cured by Digital Compression.* By M. LAUGIER. (Gazette des Hôpitaux, and Lancet, June 9th, 1860.)

1. The first case occurred in an Irishman, twenty-eight years of age, who was admitted into the surgical ward of the Charity Hospital of New Orleans, under the charge of Dr. Stone, on account of a large aneurism situated in the right inguinal region, above Poupart's ligament. The tumor was the seat of great pain, and by thrusting the finger deeply into the iliac region, over the course of the artery, its pulsation could be arrested.

The compression was conducted by Dr. Nichols, assisted by a number of physicians and students, who began the treatment by pressing the thumb against the neck of the sac, on the seventeenth of February, at five o'clock P.M. Some inconvenience was experienced in effecting the purpose, on account of the tenderness of the parts, but, the patient being calmed by opium, the compression was continued; and in thirty hours the pulsation in the tumor had ceased. As a matter of precaution, however, the pressure was kept up ten hours longer, when it was discontinued, a cure having been effected. Three months subsequently the patient presented himself at the hospital, when the tumor was found to have contracted to the size of a walnut.

[This is the fourth case in which digital compression on the external iliac for inguinal aneurism has been tried, and is the only one that has resulted successfully. The other three cases failed, on account either of the great fatigue experienced by the assistants, or from the pressure being unbearable. Dr. Nichols has, therefore, occasion to congratulate himself on the success of his treatment.]

2. M. Laugier instituted digital compression on the femoral artery for a popliteal aneurism, the size of a turkey's egg, in a man forty-eight years of age. In twelve hours concentric indurations, from clots, had formed; the tumor was very hard in forty-eight hours, and for seventy-two hours the compression was continuous. After this time it was carried on intermittently every fifteen minutes. After eighty hours the tumor was solid and very hard, and only a slight pulsation, without any expansion, could be felt at the upper part of the sac.

III.—*Dislocation of the Scapular End of the Clavicle Treated by Wiring.* By J. T. HODGEN, M.D., Professor of Anatomy in the Missouri Medical College. (Kansas City Medical and Surgical Review, Sept., 1860.)

James O'Reardon, on the 20th of May, 1860, fell from a height of fourteen feet upon his left shoulder, severely contusing the soft parts. The scapular extremity of the clavicle was completely displaced from the acromion, forming a marked prominence, and occupying a position two inches upward and backward from the acromial facet. The scapula and arm hung closely along the ribs. To maintain the parts in apposition, the ordinary apparatus for fractured clavicle was applied, and direct pressure, by means of a firm compress, was made upon the acromio-clavicular junction. This, with a variety of other bandages, was employed without success for two weeks, when, the swelling and inflammation having disappeared, wiring the bone was determined upon. The dislocation being reduced by an assistant, an incision was made over the bones and they were accurately brought together by means of twelve strands of fine iron wire, twisted into a cord as large as a crow-quill. No untoward symptom followed the operation, and on several occasions, the wire becoming loose, it was tightened. On the twenty-fifth day the wire was removed, and on the twelfth of August the external wound had healed, but the clavicle was not accurately in place, being about half an inch too high and too far back.

[That this method is the best adapted for maintaining the dislocated bones in apposition, no one can doubt; and Dr. Hodgen remarks: "So far as my knowledge goes, this operation has never been performed." He will, however, find in relation to the treatment by the wire, that he has been anticipated by Professor Gross, who has for years inculcated it in his lectures. In his *System of Surgery*, under the head of dislocations of the clavicle, he refers to it in the following paragraph: "Seeing how difficult it is to keep these various dislocations of the clavicle reduced, I should not hesitate, if an opportunity arose, to fasten the ends of the bones with a silver wire, inserted subcutaneously, and retained until reunion occurred. The operation could be easily executed, and would not be likely to cause any bad effects."]

IV.—*On Excision of the Knee-Joint.* By E. KRACKOWIZER, M.D. (American Medical Times, Sept. 15th, 1860.)

In this paper, read before the New York Academy of Medicine, the author discusses more particularly the mortality attending excision of the knee-joint, and the objections which have been urged against the operation. He has collected two hundred and thirty-three cases, which give a result of sixty-three deaths and twenty subsequent amputations, the rates of mortality being twenty-seven in one hundred; or, if we count the subsequent amputations, the ratio of failures will be thirty-six in one hundred. Of these cases thirteen occurred in the practice of American surgeons, four resulting in death, and two being under treatment, at the time of the report, with a prospect of recovering a good limb.

V.—*Fracture of both Femurs by Muscular Spasm.* By FREDERIC D. LENTE, M.D. (American Medical Times, No. 3, vol. i.)

Dr. Lente reports a case of this unusual accident, occurring in a lad twelve years of age, who had, from the age of fifteen months, been the subject of epilepsy. For several years past he had suffered from partial hemiplegia of the right side, and from convulsions of a very severe nature and of a tonic variety. The case, the history of which we append below, is rendered the more interesting from the fact that both bones were fractured during a tonic spasm, not by a sudden jerk, a point which renders it perhaps unique. There was no evidence of fragility of the bones, although they were smaller than is usual in children of the age of the patient:—

"On the 10th of April, 1859, his spasms had been recurring every few minutes with great violence; during one of them, while he was held in bed by one of the family by the arms and shoulders—a number of others being in the room—a loud snap was heard by all present. It was thought that the hip had slipped out of place, and, upon examination by the parents, what they supposed to be an extensive swelling was perceived at the upper part of the left thigh. Upon being called in soon after, I recognized it at once as a fracture of the femur; its seat was the junction of the upper with the middle third of the bone. It is stated by the friends that, at the instant of its occurrence, the thigh was flexed with great force by the intensity of the spasm on the pelvis, and the fracture was evidently effected by the powerful action of the flexor muscles of the thigh. Assisted by Dr. Richardson, I administered ether, extended the limb, and applied a thick pasteboard splint to the thigh, carrying the bandage around the pelvis, the only idea being to secure union with the least possible inconvenience to the patient, with little regard to shortening.

"June 1st.—Union of the fracture is firm, with considerable bowing and shortening, as was anticipated. A pasteboard splint encircling the thigh, and coated with shellac to prevent injury from urine and other fluids, is still kept on to prevent a repetition of the fracture, as he still has the convulsions.

"Dec. 13th.—The right femur was fractured to-day in precisely the same manner as was the left, and it was put up in the same manner.

"Jan. 29th.—The patient's health has been gradually failing since the occurrence of the last fracture, and to-day he died from gradual exhaustion. No attempt at union of the fracture has taken place. No autopsy could be procured."

VI.—*Excision of the Elbow-Joint and of the Entire Ulna.* By GEORGE WILLIAMSON, M.D. (Notes on the Wounded from the Mutiny in India.)

H. W., twenty-six years of age, was admitted into the Hong-Kong general hospital, in August, 1857, on account of acute pleurisy and hepatitis. In a few weeks a large abscess near the left elbow-joint was evacuated, and from this time the ulna became necrosed, permanently enlarged, and a few spiculæ of bone came away. A year subsequently he was received into the Fort Pitt Hospital, with numerous sinuses along the inner side of the ulna, and a probe could be introduced into the elbow-joint. His general health was good.

On the 30th of August, 1858, the whole of the ulna, an inch and a half of the humerus, and the head and neck of the radius, close to the tubercle, were removed by an incision along the inner and posterior side of the forearm. No vessels required ligation, and the arm was supported in a semi-flexed position on a gutta-percha splint. On the sixth day the greater part of the wound had united by the first intention, and by the twelfth day the union was complete. At the time of the report, four months after the operation, the man "could bend his forearm, raise his hand behind his head, and lift a twenty-eight pound weight from the ground. He could also pronate and supinate the hand; there was no anchylosis of the wrist-joint, and he could use his fingers well."

VII.—*Traumatic Inflammation of the Sinuses of the Dura Mater.* By PROFESSOR PITHA. (Oesterreich Zeitschrift für praktische Heilkunde, and Prager Vierteljahrschrift, I., 1860.)

A hussar, twenty-six years of age, received several sabre wounds on the head, one being situated on the forehead, another on the vertex, a third on the occipital protuberance, and a fourth behind the ear; the three former implicating only the skin. He labored under all the symptoms of concussion of the brain for nearly four weeks, and on the twenty-eighth day he was attacked with febrile disturbance and extreme restlessness, and the discharge from the wound behind the ear increased in quantity. On the thirty-second day chills, vomiting, and bronchial respiration supervened, and he was much prostrated. Twelve days subsequently he lost his sight, the globe of the right eye being very prominent and tense, and the pupil fixed and slightly dilated, and the conjunctiva œdematous. On the following morning death took place, the left eye having assumed the same appearances as the right.

On a post-mortem examination the wounds of the scalp were found to be completely cicatrized. The mastoid process of the temporal bone had sustained a loss of substance about the size of a bean, and the bottom of the wound was covered with grayish pus and fine granular exudation. For about half an inch in circumference around the erosion the bone was rough, the roughness extending to the mastoid vein communicating with the lateral sinus, the orifice of which was three-fourths of a line wide, and covered with a layer of lymph. The substance and membranes of the brain were normal, with the exception of that portion of the dura mater lining the middle fossa of the skull, which was covered with a thin layer of lymph. The left lateral, superior petrosal, circular, and cavernous sinuses, up to the ophthalmic vein, were filled with a thick, yellowish-white pus. The corresponding sinuses on the right side, and the two ophthalmic veins were occupied with coagula, and contained here and there some thick purulent matter. Both lungs were filled with circumscribed abscesses.

VIII.—*Dislocation of the Crystalline Lens into the Anterior Chamber of the Eye during a Fit of Sneezing.* By JABEZ HOGG, Esq. (London Lancet, No. 24, vol. i., 1860.)

Instances of dislocation of the crystalline lens are so rare that they deserve to be placed on record, and this case is the more interesting from the fact of the accident being produced during a fit of sneezing. The causes of this displacement are usually injury to the globe of the eye, falls upon the feet or on the head, or blows inflicted on any portion of the head; or it may take place without any assignable cause. This is the first instance, however, which has been produced in so singular a manner.

The patient was a German, thirty-six years of age, who had always been myopic, and whose sight had been weak for several years. Two months previous to the occurrence, his vision became very acute, and, on the eighteenth of April, after a fit of sneezing, he suddenly became blinded, and found that he was very near-sighted. On examination, the lens was seen in the anterior chamber, producing considerable concavity of the iris. The pupil was kept dilated by atropine, and on the eighth day inflammation with photophobia set in, and during the night he suffered intense agony, which could not be relieved by leeching, morphia, or chloroform. The following day Mr. Hogg extracted the lens, and the patient was immediately freed from pain. On the thirteenth of May he was discharged, and has now quite recovered, the sight remaining good.

IX.—*Report of Cases of Vesical Calculus Operated on during the Years* 1858 *and* 1859, *in the Norfolk and Norwich Hospital.* By MR. CHARLES WILLIAMS. (London Lancet, August 18, and September 1, 1860.)

Twenty-two cases of stone in the bladder have been operated upon in this hospital, during the past two years, by Drs. Crosse, Firth, Nichols, and Cadge, and, with one exception, all were attended with success. The fatal case occurred in a child, eighteen months old, upon whom the median operation had been performed, and who died a few hours afterwards. The ordinary lateral operation was performed in thirteen, the median in eight, and in the case of a female, the stone was extracted by dilatation. The ages of the patients varied from eighteen months to seventy-four years, fourteen being fifty and upwards, and eight below that period of life. In fifteen the calculi were composed of lithic acid, in four of oxalate of lime, and in three of phosphates. In the case of a pensioner, seventy years old, there was a remarkable tendency to the formation of calculi, at one time composed of uric acid, at others of phosphates. He had been cut in the hospital on two occasions, and so often previously that he was unable to reckon the number.

It is interesting to note that the Norfolk and Norwich Hospital contains the largest collection of human urinary calculi in the world, exclusively the produce of a single establishment. The number that have been removed amounts to nine hundred and eighty-two, and the museum also contains five hundred and forty-two other specimens, presented by different surgeons. Since the establishment of this charity, in July, 1772, to the end of 1859, eight hundred and sixty-three patients have been operated upon by the following methods:—

Lateral operation	803
Dilatation in female	41
Lithotrity	11
Median operation	8
	863

Of this whole number, the recoveries were seven hundred and fifty-five; the deaths, one hundred and eight; the proportion being 1 in 7·99. Of the eight hundred and three cases in which the lateral operation was performed, the proportion of deaths was 1 in 7·649. Of the forty-one females, the proportion of deaths was 1 in 20·5; two cases having resulted fatally.

X.—*On Iritis as it Occurs in Syphilitic Infants.* By JONATHAN HUTCHINSON, Esq. (Med. Times and Gazette, vol. ii., 1860, No. 524.)

This infrequent but destructive and insidious disease has either been greatly overlooked, or its study has been neglected by the profession at large, and it is with a view to add to our correct knowledge upon the subject that Mr. Hutchinson has collected into a tabular statement all the examples of hereditary syphilitic iritis which he has been able to find recorded. After a careful search through the journals and elsewhere, he has discovered but twenty-one cases, and from the series he deduces the following conclusions:—

1. That the subjects of infantile iritis are much more frequently of the female than of the male sex, as shown by the fact of fourteen of the infants being girls and five boys. In two cases no information is given of the sex.

2. That syphilitic infants are most liable to suffer from iritis at about the age of five months. The youngest patient was seven weeks of age; the oldest, sixteen months.

3. That syphilitic iritis in infants is often symmetrical, but quite as frequently not so. In nine cases of the series both eyes were affected, and in eleven the inflammation was limited to one; but in the latter class it is quite probable that the other eye suffered subsequently.

4. That iritis, as it occurs in infants, is seldom complicated, and is attended by but few of the more severe symptoms which characterize the disease in the adult. Sclerotic congestion and pain were absent in more than one-half the cases, and in but very few was there any marked photophobia, or haziness of the cornea.

5. Notwithstanding the ill-characterized phenomena of acute inflammation, the effusion of lymph is usually very free, and the danger of occlusion of the pupil great.

6. Mercurial treatment is most signally efficacious in curing the disease, and, if recent, in procuring the complete absorption of the effused lymph. In all cases where this remedy had a fair chance, the disease promptly yielded to it.

7. Mercurial treatment previously adopted does not prevent the occurrence of this form of iritis.

8. The subjects of infantile iritis, though often puny and cachectic, are also often apparently in good health; showing that the more ill-nourished are not the most prone to be attacked.

9. That infants suffering from iritis almost always show one or other of the well-recognized symptoms of hereditary taint. In two instances only were there no other specific symptoms of constitutional taint; but in the remaining cases, the following symptoms were present at the outbreak of iritis: Psoriasis of the general surface in nine cases; a papular rash in two; psoriasis palmaris in one; erythema marginatum in two; peeling of the skin in one; falling of the eyelashes and tinea tarsi in two; snuffles in ten; sore mouth and aphthæ in four; and condylomata of the anus in five.

10. Most of those who suffer from syphilitic iritis are infants born within a short period of the date of the primary disease in their parents. "In one instance the mother had contracted primary syphilis from her husband only three months before the birth of the infant. In another, the interval was four, and in a third, six months. In five, about a year had probably elapsed; and in another five, at least two years. In two, judging by the fact that the mother had previously borne a number of children, some of which had died with suspicious symptoms, the date of the original disease in the father could not be placed nearer than six or seven years. This calculation quite accords with what is observed in the iritis of adults, which, in a great majority of instances, is a secondary—and not a tertiary—symptom."

PATHOLOGY AND PRACTICE OF MEDICINE.

BY RICHARD J. DUNGLISON, M.D.,

ONE OF THE PHYSICIANS TO THE PENNSYLVANIA INSTITUTION FOR THE INSTRUCTION OF THE BLIND, ETC.

1.—*Connection between Chorea and Acute Rheumatism.* By G. W. Child, M.D., etc. (London Lancet, Sept. 15, 1860, p. 260.)

Dr. Child details several interesting cases as illustrative of the fact that rheumatism and chorea are "hereditarily convertible"—that is, that rheumatism in the parent may descend as chorea to the child. We may appropriately refer to the observations which he makes upon the five cases which he describes as embracing a condensed history of what has already been recorded upon this subject. Since the year 1850, when the existence of a connection between rheumatism and chorea was announced by M. Sée of Paris, and in England by

Dr. Senhouse,* much attention has been given to the subject. M. Botrel, in the following year, went so far as to declare that chorea is nothing but "rheumatism of the nervous centres."†

Botrel's view, however, was not generally accepted; one of the latest French writers (M. Moynier‡) declares the connection to be merely accidental, though he himself, inconsistently enough, tells us that, out of thirty cases which he examined, the connection in question could be traced in eighteen. Dr. West§ has never once met with it, nor (he says) has M. Rilliet at Geneva. It is well known that both diseases are often hereditary; and Dr. Begbie was, we believe, the first to point out the existence of a family connection between the two—to show, that is, that it frequently happens that where one member of a family is subject to chorea, another is rheumatic. M. Botrel's theory seems to point to the conclusion that one and the same blood-poison may manifest itself, according to circumstances, as either chorea or as rheumatism. Whatever may be thought of the theory, the cases described by Dr. Child are suggestive, and may lead to further useful inquiries.

II.—*Difficulties in the Diagnosis and Prognosis of Mental Diseases.* By C. M. BURNETT, M.D. (British Medical Journal, Aug. 4, 1860, p. 600.)

It seems appropriate at a time when the work of one of the most distinguished ornaments of the profession (Dr. Winslow) is attracting deserved attention, to refer briefly to remarks upon kindred topics to those embraced in it. Dr. Burnett has read before the Reading (Eng.) Pathological Society a paper upon difficulties which beset the path of the psychopathic inquirer. His object, according to his own language, is to take one or two of the more prominent signs of mental disturbance, and to follow those signs as they are to be observed in the various forms of mental disease. He examines first the subject of *delirium*, constituting not a disease, but merely a symptom, and only a symptom, whether we speak of it as acute or chronic delirium. Very different forms of cerebral disease may be characterized by this symptom, but the nature of the delirium is different in each, as in arachnitis and acute mania; yet two different forms of delirium may exist in the same disease.

Dr. Burnett then devotes attention to the *pulse*, and to its importance as an element in forming our prognosis. The pulse is always accelerated in acute mania at some period in the twenty-four hours more than at others. We may rest much of our prognosis confidently upon the pulse in such cases, if we bear in mind that the danger is indicated by the frequency in the return and duration of its acceleration. As long as there is a distinct subsiding in the frequency of the pulse, which generally occurs soon after the active paroxysm has passed off, we may hopefully anticipate a favorable issue. Rarely do we find, where there is real danger, the pulse, as in other cases, rising and falling with the paroxysm; but, on the contrary, we have a continuous and more or less accelerated vascular action ; and this rule applies as well to the puerperal form of acute mania as to the acute mania arising from other causes. Dr. Burnett has unlimited confidence in the pulse as a means of prognosis in cerebral affections,—frequently regarded in other diseases as at times a fallacious guide. Several cases are detailed to warrant this confidence, in one of which he is anxious to show that in that kind of delirium which accompanies arachnitis, the variations in the frequency of the pulse are equally great as in the delirium of mania, and when those variations can be detected, the prognosis in the one, as the other, may be alike favorably formed.

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* See Canstatt's Jahrsbericht, 1850, vol. iv.

† Ibid., 1851, vol. iv.

‡ Ibid., 1858, vol. iii. p. 44.

§ Diseases of Children, 4th edit., p. 206.

In alluding to the occasional suddenness of invasion of cerebral disorders, the writer calls attention to the fact that, in spite of the intense functional disturbance, the changes of structure are by no means proportionate. So sudden is the attack, indeed, that we may well doubt sometimes whether the cerebral structures can have anything to do with it. Yet the explosion may be merely the manifestation of undetected causes which might escape the eye of the morbid-anatomist. The closer we watch our case, and compare the vascular and somatic disturbances by which they are accompanied, the more certainly shall we be assured that these degrees of delirium, whether in its complete or its incomplete form, and these marked changes in the character and frequency of the pulse, are closely and accurately dependent upon somatic changes going on at different parts of the organization. We must recollect that the state of the cerebral tissues and of the blood is not a fixed one, and therefore if the disease has been induced by a trifling exciting cause, it shows the structure of the brain to be less prepared for the assault. You see this well illustrated by observing what different effects the same quantity, or nearly the same, of some diffusible stimulant has upon different persons. It is the close study of these morbid phenomena that forms the groundwork of our most valuable and accurate diagnosis. Blood conveying to the brain not only a deficient amount of nutrient material, but some abnormal substitute for that material, must obviously fail to effect those healthy psychological phenomena, which can strictly belong only to tissues brought together in normal proportions. The more these proportions deviate from their healthy standard, the more unable is the brain to recognize truthfully the objects and phenomena of the outer world.

We are able to trace the rapid succession of exalted ideas, in the delirium of mania, to the presence of those substances in excess, which form, in their normal proportions, a large part of the chemical constituents of the brain. It is in the rapid succession of ideas we notice in some of the acute forms of mania, that we must all have been able, at times, to detect a gradual increase of incoherence, till all power of recognition, and even consciousness, seems to be lost. Those who suppose that because incoherence and unconsciousness are more complete in the acute cases than they are in some of the chronic and intermittent forms of the disease, they do not exist at all in these last, are probably not aware of the fact that a temporary abolition of the understanding, sufficient to destroy healthy mental gestation, takes place in both kinds of mania ; and they are still less prepared to recognize the presence of delirium, or its near relative, in many chronic diseases of the mind.

The delirium of drunkenness, Dr. Burnett remarks, is often mixed up with cases of chronic mania; and it is worth while to observe how far all those cases which present such a marked periodical character may not be cases of this kind, where the excitement produces first the incautious taking of the spirits, till at last it cannot be resisted. It may not be necessary to incarcerate the ordinary case of delirium tremens, and the patient may lapse again into a similar state, but in such cases as those first referred to, in which spirit has been taken as the effect of periodical or intermittent mania, these persons will, under judicious confinement, not only recover their minds, but their lives also will have probably been saved.

Such are some of the points of difficulty which are elucidated in the cases furnished by Dr. Burnett, and which receive ample consideration in the remarks made by him.

III.—*Pleurisy, Pericarditis, and Disease of Liver, supervening in advanced Caries of the Spine.* Communicated by EDWARD B. GRAY, M.B., Oxon. (Medical Times and Gazette, June 30, 1860, p. 7.)

A lad of eighteen years of age was admitted into the Radcliffe Infirmary at Oxford, with angular curvature of the lumbar spine, and a superficial abscess on the left hip, which burst about a week after admission, and discharged several ounces of thin pus. A few weeks afterwards he was seized with urgent dyspnœa, cough, and sharp pain in the left hypochondrium, and on the next day after the appearance of these symptoms, the skin of the whole body began to turn yellow. The urine was tinged with bile, and albuminous, but contained no blood-cells or kidney-casts. The severity of the chest symptoms gradually abated, auscultation exhibiting dullness and impaired respiration, with a crackling friction sound in the lower left lateral region of the chest.

The patient gradually sank, and post-mortem examination revealed the presence of a layer of recently effused, soft, villous lymph in the pericardium; old pleuritic adhesions on the right side; recent pleurisy, with abundant effusion of lymph and serum on the left side; the liver enlarged and in a state of extreme fatty degeneration, and the bodies of the four upper lumbar vertebræ completely destroyed. The bodies of the twelfth dorsal and fifth lumbar vertebræ were in apposition; their adjacent ends were carious, and, by straightening the spine, the slight gap between them could be considerably widened. The abscess went from the gap in the vertebræ, in the direction of the left psoas muscle, (very little of which remained,) down to the brim of the pelvis. There it took two courses: the one going through the abdominal wall into the left groin, and thence round on to the hip; the other descending into the pelvis in front of the denuded sacrum, and forming a cul-de-sac behind and somewhat to the left of the rectum.

In summing up the history of the case, the following pertinent remarks are made. There is an external abscess dependent on carious vertebræ. The abscess breaks and remains open. For the next month there is no irritative fever, nor a single bad symptom; then, in the course apparently of a few hours, and without obvious cause, we find severe inflammation set up in one pleura; this is very soon complicated with jaundice, and in eighteen days the patient dies. When the pericarditis came on is uncertain, but, from the post-mortem appearances, one would conclude it to be of more recent date than the pleurisy. What is the probable explanation of this series of morbid phenomena? In the absence of any exciting cause, either local or external, (as exposure to cold, etc.) to account for them, it seems reasonable to attribute them to pyæmia, or blood-poison of some kind.

The case is of interest as showing to what a state of things the spinal cord can accommodate itself, when the process of destruction is slow, and the deviation from the natural form gradual. In this boy the spinal cord in one place was bent almost at a right angle; it was separated from the abscess only by its own fibrous sheath; the greater part of the lumbar plexus was without any bony protection; and yet there was no interruption of any of the functions of the cord, and there had been from the first hardly any pain, either *at* the seat of mischief, or in other parts reflected *from* it.

The case just narrated was tediously chronic in its course, and seemed to require an extraordinary combination of disease to bring it to a fatal end.

IV.—*A Case of Double Transverse Hemiplegia.* By WILLIAM BAKER, A.M., M.D. (London Lancet, Aug. 25, p. 183.)

The earliest symptom observed in this case, a child, four years of age, was pain in the *back part of the head and neck,* which in a day or two became increased, if the head was held in an erect position. Less than a week after the first manifestation of pain, it was perceived that the *left arm* was paralyzed, and the paralysis gradually extended to the *right leg*, the right arm and left leg being still perfect. Two days afterwards, the *right arm* was invaded, and the paralysis gradually increased and extended to the *left leg.* The paralysis was the most complete in the first invaded limbs; the only power over them was slight movement of the fingers and toes. The right arm and left leg he could flex in a trifling degree, and continued to do so to the last. He died about a month after the appearance of the first symptoms. The intellect throughout was undisturbed; sensation and the sphincters perfect; respirations rather quick, but never embarrassed. The treatment adopted was gently and persistently antiphlogistic; the position recumbent.

Unfortunately, the attending physician made no post-mortem examination, and therefore the most important part of its pathology remains in obscurity. The mischief, Dr. Baker thinks, was not in the brain, for intelligence and facial expression were unchanged, and all the nerves of special sense and also those of common sensation were perfect. When the brain sustains an injury above the decussation in the medulla oblongata, and paralysis is the result, the cause and effect are presumed to be invariably opposite or crossed; but in lesions confined to the spinal cord, the effect is said to be as regularly direct, and probably never crossed. Here we have a paralysis of the four limbs, a well-marked *double transverse hemiplegia*, and in spite of a crossed manner of invasion, Dr. Baker is disposed to place the cause of the malady in the spine. From the history of the approach of the paralysis, with the attendant symptoms, he deems it an idiopathic affection of the spine, and pronounces it spinal apoplexy. The spot in which the heat and tenderness were greatest was diagnosticated as the site of effusion or extravasation. Any effused fluid beneath the pia mater of the medulla might travel from the neck to the cauda equina, and the result would be either a complete extinction of sense and motion, or any other degree of modified lesion of either.

The case of Baron Cuvier is described in connection with that above detailed, as that distinguished man died of a transverse hemiplegia. The post-mortem examinations then made revealed no trace of disease when the spinal column was opened. The brain, pharynx, and œsophagus equally failed to present any morbid condition; in fact, in no part of the body could any change be discovered to which the sufferings and death of this illustrious man could be attributed. His illness was probably the consequence of exhaustion alone. But in the case of the child which we have described above, death was doubtless caused by an extension of inflammation to the brain.

V.—*Apoplectic Affections of the Retina.* Under the care of DR. DIXON, Royal London Ophthalmic Hospital. (London Medical Times and Gazette, June 23, 1860, p. 623.)

The value of the ophthalmoscope is well illustrated in several cases where diagnosis would have been difficult in the absence of this means of assistance. The instrument in fact completed the history of the disease, so far as the eye was concerned, and furnished information which formerly could only have been obtained by actual dissection. In *Case* 1, the patient noticed while at work that there was "a dimness before his sight," and, on closing the eyes alternately, he found that he could not see with the left. The next morning the right eye failed in the same manner, and, on further trying the eye, he could only make out very large capital letters. Ten days afterwards vision in his right eye had improved, but in the left it was not materially affected. In strong light he could not see at all. The ophthalmoscope showed traces of effusion from the choroid beneath the retina, at the yellow spot in both eyes, the most in the left. This was a well-marked illustration of symmetrical apoplexy beneath the retina occurring in an apparently healthy man.

Case 2 commenced "as a little dimness like a mist before the eye," followed by the appearance of black spots floating before it. His general appearance on admission was not the blank look of total blindness, but he could find his way in the hospital, only slowly, and not without directing himself somewhat by feeling. The pupils were unusually large, and did not contract by light. He could see better with the left eye. The eyes were examined at the time by the ophthalmoscope, and clots of blood were distinctly seen in the fundus. No marked improvement followed the treatment. Constant headache presented a complication in this case, the pain being chiefly in the forehead.

Case 3 afforded an example of apoplexy of one retina only, but attended with frontal headache and epistaxis. The failure of sight in the right eye appeared to have followed soon after a violent attack of bleeding from the nose. The headaches were wholly relieved by the epistaxis. When last examined, he described his sensations at night as follows: On looking at the ceiling, he sees a large "block," the size of two heads, the rest of the ceiling appearing pretty clear. (The pupils dilated by atropine.) Upon making an examination of the eye with the ophthalmoscope, a large irregularly circumscribed patch was discovered, extending over and around the yellow spot, the ground of which was lighter colored than the surrounding parts, and on which were numerous dots of extravasation, very irregular, and in many places consisting of five or six spots running into each other. Between this patch and the margin of the optic entrance was found a large and apparently thick coagulum of a deep purple tint. Over the whole of the patch are small white spots, apparently about the size of pins' heads. Several distinct apoplexies must, in this instance, have occurred at different periods. The whitish patches were no doubt those of oldest date. The case is of interest on account of the age of the man being exactly that at which a sister of his had died of cerebral apoplexy, and because in his own case severe frontal headache and epistaxis had preceded the effusion into the eye.

VI.—*Hemorrhagic Diathesis which manifests itself sometimes in the course of Phthisis Pulmonalis and in other Acute or Chronic Affections.* By DR. LEUDET, of Rouen. (Gazette Hebdomadaire, May 25, 1860, p. 350.)

Pathologists have pointed out the occasional coincidence of purpura hemorrhagica and general acute tuberculization, and it has even been attempted to demonstrate that the coincidence is not merely accidental, but that purpura is a symptom of a marked alteration in the circulating fluid itself, the effect of tuberculization. However that may be, we have the testimony of M. Leudet that, in two hundred and forty-four cases of pulmonary consumption, nine exhibited hemorrhagic tendencies from other organs than the lungs. Five times the hemorrhage was from the intestines, twice in the abdominal muscles, twice in the skin, three times in the brain, once by the nose, etc. Simultaneous hemorrhage frequently occurrs from several organs. Entorrhagia connected with tuberculosis of the lungs is not due always to tuberculous ulcerations, for in a majority of cases in which they have been observed, no alteration of this kind had taken place in the intestines.

So also may we place in the same category hemorrhages which have occurred in chronic pleurisy, cancer of the anterior mediastinum, lesions of the kidney, disease of the liver, etc. In cirrhosis of the liver, especially, these hemorrhages the more frequently occur.

VII.—*The Conditions attending every attack of Acute Rheumatism.* By ALBERT T. WHEELOCK, M.D. (American Medical Monthly and New York Review, Aug., 1860, p. 117.)

Dr. Wheelock starts out at once with a proposition of the correctness of which he is fully convinced, by his personal experience—"Every access of acute articular rheumatism is immediately preceded by a special condition of the nervous system induced by mental anxiety or the depressing passions." We quote this startling "truth," as the writer terms it, without indorsing his conviction, that it is, "without [?] egotism, the most important pathological discovery in the present century," founded as it is upon but a small number of cases, fifty in all. The cases furnished by him do not all bear conclusive testimony that the mental condition had any agency as the indirectly exciting cause, or that in the state of mental depression acute rheumatism was invariably the result of a "suppression of the sensible or insensible perspiration," an expression, indeed, which is often used now-a-days, by writers and others, without any very definite idea of its significance.

We cite, by way of illustration, *Case* 1. "A clergyman, aged thirty, married, was suffering much mental anxiety and depression, in consequence of opposition to him, and difficulties in his church. At this period he took a severe cold, *in consequence of being unexpectedly out late at night, thinly clad.* The following day there was a severe attack of acute rheumatism."

Case 6. "A clergyman . . . lost by sudden death an only child. . . . . During this mental disturbance, *he became wet in a shower of rain.* . . Acute rheumatism followed."

Dr. Wheelock's observations have settled indubitably, in his opinion, that "mental emotion and cold," (especially cold, we venture to suggest,) "produce with philosophical regularity and mathematical certainty the disease acute rheumatism. The connection between these phenomena is thoroughly proved." He concludes these novel and startling observations by remarking: "In my own experience, I have found, when patients are informed that it has been brought on themselves by a mental agitation that might seem to have been avoided, or was inexcusable and needless, the disease has been shortened in its course or immediately stopped; and where there had been successive attacks, the patients have thus been apparently spared these recurrences." He would deserve the title of the "good physician," who could detect and dispel depressed mental conditions, and thus have it in his power to destroy that most painful disease, acute articular rheumatism.

VIII.—*A Statistical Contribution to the Diagnosis of Cancer of the Stomach.* By JAMES C. ORTON, M.D. (American Medical Times, September 29, 1860, p. 220.)

This paper by Dr. Orton is founded upon an analysis of sixty recorded cases of cancer of the stomach, collected principally from periodical medical literature. In continental cities nearly one-fourth of all the fatal cases of cancers have their origin in the stomach; but no accurate statistics on this point have been registered in this country. Cancer of the stomach is more frequent in old, luxurious cities, than where the style of living is comparatively simple. The *age of greatest liability* to attack is between sixty and seventy; next, between forty and fifty. As regards *the sexes*, males are more subject to it than females, as four to one, and married females to the unmarried, as six to one. We may condense the remainder of Dr. Orton's statistical conclusions embraced in this first contribution on the subject, as follows:—

I. CARDIAC EXTREMITY.—1. *Frequency.*—Less frequent than at the pyloric extremity.*

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* Of sixty cases, ten were at the cardiac orifice, sixteen in the body, and thirty-four at the pylorus.

2. *Sex.*—Males more liable than females, as nine to one.*

3. *Age.*—Seldom occurs before the age of fifty.

4. *Duration and Prognosis.*—Rarely extends over several years; the great majority terminate fatally within one year; above one-half do not live beyond six months.

5. *Symptoms.*—Vary with seat, extent, and nature of the cancerous growth.

a. Dysphagia.—Diagnostic of the seat of stricture, the cardiac orifice. In the scirrhous variety, may be persistent and intermittent. Attended with severe pain at the pit of the stomach, and threatened suffocation. (In seven cases, five had dysphagia as the first well-marked symptom.)

b. Pain.—Caused by arrest of bolus at the strictured point; not constant in character or seat, depending probably much upon the degree of constriction, and occasionally upon the nerves implicated. May be confounded with hepatitis, gastritis, colic, angina, etc. Important when located about the ensiform cartilage; fixed, unvarying, and lancinating, or of a dull, aching character during efforts of deglutition.

c. Vomiting.—An early symptom in nine cases out of ten; important diagnostic symptom when promptly following ingestion of food. When very intermittent, disease makes very slow progress, or progresses very rapidly, and is of the encephaloid variety; the freedom from vomiting being due to enlargement of the orifice by ulceration. In the later stages, regurgitation of unaltered food, and vomiting of blood. (Of ten cases, five regurgitated near termination of disease, two had vomiting of blood, etc.)

d. Tumor.—Diagnostic of encephaloid. If but slightly hard, and at the ensiform cartilage, probably scirrhous.

e. Constipation.—In the earliest stages, from the absence of solid food; and *f. Diarrhœa,* from irritation of the cancerous *debris.*

g. Emaciation.—Those cases attended with the greatest degree of emaciation are of the encephaloid variety. (Of ten cases, seven were greatly emaciated.)

II. BODY OF THE STOMACH.—1. *Frequency.*—Intermediate between the orifices.

2. *Sex.*—Males to females as four to one.

3. *Age.*—Occurs about the age of sixty.

4. *Situation.*—In the following order: larger curvature with the great cul-de-sac; the body generally; the smaller curvature.

5. *Form.*—Cancer of the body always encephaloid or colloid, except when seated in the smaller curve.

6. *Duration.*—Several years, generally; and sometimes after long-continued dyspepsia, in which latter case they soon terminate fatally.

7. *Symptoms.*—Confounded at first with dyspepsia. [Dr. Orton's first paper here terminates abruptly, and so, therefore, must our abstract. We may remark, however, that some of the conclusions arrived at appear to be founded upon a very insignificant number of statistical cases.]

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* Only ten cases are given.

OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN.

BY WM. B. ATKINSON, M.D.,

LECTURER ON OBSTETRICS, AND DISEASES OF WOMEN AND CHILDREN.

I.—*A New Method of Version in Abnormal Labor.* By J. BRAXTON HICKS, M D., F.L.S., etc., London.

One of the most important facts in regard to version is, that if we place the fœtus in utero in a transverse position and abdomen downward, its knees will be opposite the os, and may be hooked down by a finger, if the dilation is sufficient. Next, it is rare that one side or the other is not more dependent, and, consequently, one knee is within reach of the finger. Again, the shape of the cavity of the fully developed uterus being oval, with the long axis placed vertically, the tendency of the slight pains toward the end of pregnancy is to place the longer axis of the fœtus in a corresponding direction, so that if the fœtus be transverse, a slight preponderance of force in either direction will determine the ultimate presentation. His method is conducted thus: Suppose the simplest condition, where the uterus is passive, the membranes unbroken, the liquor amnii plentiful, the os expanded sufficiently to detect the presentation, which is cephalic, and the occiput to the left side: the patient is in the ordinary position, the trunk curved forward to relax the abdominal muscles. Introduce the left hand into the vagina, so as to fairly touch the head of the child. Having passed one or two fingers within the cervix, and resting them on the head, place the right hand on the left side of the breech at the fundus uteri. Employ gentle pressure and slight impulsive movements on the fundus toward the right side, and simultaneously on the head toward the left iliac fossa. In a very short time the head will be found to rise and the breech to descend; the fœtus is now transverse, the knee opposite the os, the membranes may be ruptured, and the labor terminated as usual in turning. In obedience to the law above stated, when the fœtus is placed transversely, a slight impulse will determine the final position of the head. When the leg is seized, it is therefore advisable to place the right hand beneath the head in its new position on the left side, and gently press it toward the fundus. The same law renders it very easy to convert the cephalic, shoulder, neck, or even natural transverse, into a breech case. In either of these, it is merely necessary to push up the head, and, removing the left hand from the vagina, without bringing down the knee or foot, place it on the breech in the right iliac fossa, so as to depress it into the cavity of the pelvis. No extra force should be used. for it will be found to obey a very gentle persuasion. In other presentations from the one supposed, the only changes required will be to make the pressure and impulses in opposite directions. When the exact position cannot be made out, treat it as the first or fourth. If the liquor amnii has escaped, though the operation is more difficult, yet even then it is easily managed, and if the *uterus be too active, suspend it for a moment by chloroform or opium.*

By this method, we avoid the addition of the hand, and perhaps arm, to the contents of the uterus, and the irritation, present and future, caused by it; the entry of air within the uterine cavity; liability to rupture of the uterus; and the pain and distress felt in the ordinary plan. Another advantage is, that the membranes need not be ruptured. This method is peculiarly applicable to all malpositions; in puerperal convulsions, in narrowness of the brim of the pelvis, it saves the pressure upon the os uteri against the projecting parts, and in cases of placenta prævia.

The author then relates a number of cases, in which this plan was successfully employed.—(*Lancet*, July 14th, 21st, 1860.)

II.—*On the Delivery of the Placenta, particularly in Abortions in Early Pregnancy.* By L. D. SHEETZ, M.D., Indiana.

This subject is one of the most important which can engage the attention of the accoucheur, and requires to be perfectly understood by him prior to his entrance into the lying-in chamber. Cases frequently occur where abortion has taken place, the embryo has been extruded, excessive hemorrhage follows, syncope approaches, and no time is to be lost. The medical attendant has no time to consult authorities; it is required of him to act quickly and well. At full term the placenta, as a general rule, is easily managed; but when adhesion has taken place, accompanied by hour-glass contractions, much difficulty is experienced.

The *immediate* delivery of the placenta is required, particularly in abortions with much hemorrhage. In nearly all cases at term, the after-birth is found, after the delivery of the child, lying in the vagina, and may be extracted by the use of gentle traction. If the uterus has not sufficiently contracted to throw it off, gentle frictions should be made over the abdomen, which will assist in arousing the uterus, causing it to expel its contents, and thus guard against concealed hemorrhage. When the placenta is adherent, the womb still retains to a certain extent its elongated form; the circular fibres are contracted, while the longitudinal fibres remain in a flaccid condition. In this state hemorrhage, to an exhausting extent, will speedily occur. There is no use in waiting for nature to relieve such a case; but the physician must at once resort to manual delivery Though cases have been reported where the placenta was so closely adherent as to defy separation even after death, yet these instances are rare. In cases of abortion, during the first month, the uterus being but slightly developed, its vessels are consequently small, and there is very little bleeding—besides, there is as yet no placenta; but after the second or third months, excessive hemorrhage generally attends these cases. When the placenta cannot be felt by the touch at the os, the finger should be passed in, so as to traverse the whole interior of the womb, when, if a placenta be found, efforts should at once be made to remove it. The idea seems to be prevalent, that it can only be removed in early abortions, if at all, by the use of some instrument, as the forceps or hook, and that when these fail, recourse must be had to the tampon, ergot, etc., to arrest the hemorrhage; the after-birth being left to the process of decomposition. Dr. Sheetz is persuaded that the tampon is often a source of mischief, being employed very frequently before any attempt has been made to extract the placenta.

After referring to the views of Meigs, Chailly, Ramsbotham, and other writers on this subject, Dr. Sheetz gives his mode of procedure: "My method is to remove the placenta with the index finger, on which I always keep a tolerably long nail for the purpose of separating the after-birth from the womb. The nail should not be too long, or it will not be sufficiently firm, and may bend backward while using it. Push the uterus as low down in the pelvis as possible, and retain it there with the left hand, while you introduce the index finger of the right hand into the cavity, and peal off the placenta and remove it. Sometimes it is a little difficult to separate with a single finger, and I do not get quite all removed; but it is so much broken up as to arrest the violence of the hemorrhage, and render the tampon, etc., unnecessary; in a few days the remainder will come away piecemeal. The detachment of the placenta causes considerable pain, and you are sometimes obliged to desist a few minutes, without removing the finger to let the patient have a little rest; but I have never seen any bad results follow the operation."—(*Cleveland Med. Gaz.*, July, 1860.)

III.—*A Case of Rupture of the Uterus.* By JOHN H. ALDRIDGE, M.D., Southampton.

Mrs. S., aged forty-one, tall, robust, never any illness, had been married eight years and given birth to seven children, two of whom were born dead. She was taken in labor at 12 P.M., March thirtieth, with strong uterine contractions. On the next day, (the thirty-first,) at 3 P.M., suddenly, after a very violent pain, she felt something give way in her abdomen, with a snap, and the passage of a clot of blood from the vagina. From that time there was a slight red discharge, and no more proper labor-pains. She went about her household duties all that day, and with occasional severe pain at the lower part of the abdomen, until the fifth of April, when the discharge became fetid, and the abdomen much distended, and painful. On the sixth, the odor of the discharge had become horribly offensive, of a blackish red, and watery. The pulse was quick, but full and strong, the abdomen tympanitic, so that no part of the child could be felt. On examination, the os easily admitted the passage of two fingers, though no portion of the child could be reached. The diagnosis was rupture of the uterus, and the operation of turning was resorted to, with the view of bringing the child away.

At 3 P.M. of the sixth, the left hand was passed quite into the uterus, the membranes were ruptured, and a full-sized male child extracted without difficulty. It was putrid, and must have been dead for several days. The placenta was brought away in a similar state. The patient sank gradually, and died on the eleventh of April, eleven days after the supposed period of rupture.

The autopsy showed the peritoneum containing a considerable quantity of the same kind of fluid as that discharged from the vagina. The intestines were adherent, and gave evidence of the existence of severe and recent peritonitis. The fundus uteri protruded above the symphysis pubis, and, on washing away the blackish-red fluid, the rupture was immediately seen. It extended from the right extremity of the fundus obliquely through the whole body and cervix of the organ, and for some distance into the upper wall of the vagina. There was no unusual prominence or roughness of the pelvic bones which could have predisposed to this accident. In all likelihood, the rupture, which occurred on the thirty-first of March, was enlarged to the extent noticed during the operation of extracting the child. It is difficult to assign any reason for the severe injury to the womb in this case, as no predisposing causes could be found. The pelvis was of normal dimensions, there was no history of a fall or injury during the pregnancy, and, so far as can be judged from the woman's account of the labor, the uterus had not been subjected for any unusual length of time to great pressure or attrition from its own expulsive efforts. The circumstance of her having lived so long after the accident, shows her to have been of no ordinary strength of constitution.—(*Lancet*, August, 1860.)

IV.—*Retroflexion of the Unimpregnated Uterus.* By John Moir, M.D., F.R.C.P., Edinburgh.

Retroflexion occurs in two very opposite states of the uterus: first, in the normal unimpregnated state; and second, in the uterus soon after delivery, when its bulk and attachments are in a very different condition. For a long time he employed, in the treatment of these cases, the simple intra-uterine bougie as recommended by Professor Simpson, or the wire pessary of the same author, but, as annoying cases often occurred, where, after the removal of the instrument, the uterus resumed its abnormal position, he was compelled to resort to some other expedient. It occurred to him that if, by the introduction of a graduated series of sponge tents into the uterus, that organ would gradually dilate, as in a case of early miscarriage, and then allowed to contract over some well adapted instrument, the tendency to flexion might be overcome.

This plan was employed in several instances, and with the most complete success. The sponges must be of the smallest possible diameter. As considerable difficulty sometimes attends the introduction of the first sponge, from its softening in the vagina before it can be passed into the os and cervix, the operator must be satisfied then with getting it into the cervix the first day. The next day, little difficulty is experienced in passing a fresh one up to the fundus, but this must be done before proceeding with a larger one. After having passed it thus far, it should be allowed to remain one or two days, and a larger one then introduced, and so on till one, the thickness of the thumb, is introduced. From two to three weeks is required for this purpose. Care must be taken to suspend the treatment if much irritation is produced, and the symptoms properly treated ere a further trial is made. In only one case was he compelled to cease for a length of time, as severe hemorrhage was induced, to which, however, the patient was liable from slight causes. On removing the last sponge, an intra-uterine wire pessary, the stem of which is covered with gutta-percha to the size of about half an inch in diameter, is introduced into the cavity of the uterus, and allowed to remain for one or two days. This is replaced by another, with the gutta-percha about half as thick, and so on till the ordinary wire pessary is arrived at, and which remains for five or six days. After its removal, for a week or two the patient should remain in a recumbent posture. The uterus should be daily examined, and any flexion at once remedied. If all goes well, the patient should gradually return to her usual habits, but great care must be observed to keep the bowels easy, and avoid any straining or violent exertion.

As the sponge is so disagreeable to use, other remedies have been employed. India-rubber dilaters were tried, and seem likely to answer well.—(*Edinburgh Med. Journal*, February, 1860.)

V.—*Phlegmasia Dolens.* By W. TILBURY FOX, M.D., London.

This paper, read before the Obstetrical Society of London, regarded the view that the disease was dependent upon inflammatory changes in the vessels as too limited. The various states in which it occurs are: as the sole local disease, as after abortion, removal of polypi, etc.; as part of a general disease, either of virus origin, as puerperal fever, erysipelas, dysentery, etc., or abnormal nutrition, as cancer, phthisis, etc.; as complicating other diseases, as iliac abscess, suppressed menstruation, etc.

Its evolution depends upon the existence of obstructive disease in both veins and lymphatics. The causes of such obstruction might be classed as extrinsic or intrinsic in regard to the vessels, the former being comprised under the head of pressure from without; the latter, all producing coagulation, being subdivided under true phlebitis conjoined with angeio-leucitis, thrombosis, a mixture of these two, and preternatural coagulability of the blood.

It was insisted upon that this affection, except in its epidemic form, is in the majority of cases a pure thrombus, produced by sudden absorption of morbid fluid, the effect of sudden loss,—the class of cases in which it occurs, viz., diseases accompanied with breach of surface, as after labor, cancer, phthisis, the removal of polypi, being especially favorable to such an occurrence. This mode of production applies equally well to many cases of œdema, which pressure leaves unexplained, the difference between the two cases being, that in phlegmasia dolens the lymphatics are involved in addition to the veins.

Dr. Rigby remarked upon a case he had lately seen, occurring in the arm of a patient with a very feeble circulation. It was precisely one of those cases of coagulation in the veins described by Dr. Humphrey. He had followed the practice of Dr. Humphrey, of giving ammonia for the purpose of dissolving or breaking down these coagula, and with the best effects. There could be no doubt that the affection was frequently caused by the absorption of putrid matter.

Dr. Graily Hewitt observed that there were two questions for solution; the one being the *nature*, the other the *cause* of the pathological changes which occur in this disease. He conceived that they consisted in coagulation of the blood within the veins, and could not admit that the lymphatics were primarily or necessarily affected. The cause, he believed, might be produced by the action of septic matter introduced into the veins, as explained by the author. He would, however, explain the occurrence of coagulation in the veins, in the majority of cases coming under the notice of obstetricians, in another way. The influence of deficient contraction of the uterus after delivery was very important. The uterine sinuses remain open, become filled with coagula which spread upward, the iliac veins are invaded, and phlegmasia dolens occurs. When hemorrhage takes place, the same thing occurs. He believed that the disease would be rarely observed if steps were always taken to insure due contraction of the uterus after delivery.

Dr. Druitt regarded the affection as a member of that class of pathological exudations which includes also the diffuse inflammation of the areolar tissue, the phlegmonous erysipelas, the carbuncle, etc. A poison introduced into the areolor tissue, either locally or through the circulation at large, was sufficient to explain the phenomena. He considered it a retrogression to assert that obstruction was the cause. This will produce its mechanical effects, as œdema, but could not account for phlegmonous erysipelas or carbuncle. The true pathology of the disease was, that the imbibition of poison from a wound or ulcer produced not merely coagulation of blood in veins, but that yet undefined change in the relation of the blood and tissue which caused a peculiar exudation.

Dr. Barnes referred to the essays of Mr. Henry Lee and Dr. MacKenzie as admirable and complete contributions to the pathology of this malady. He did not consider that hemorrhage disposed to this affection by favoring imperfect contraction of the uterus, but by increasing the absorbing function. He, too, had found the treatment by ammonia the most useful.

Dr. Fox, in reply, could not disallow the lymphatics a share, and asked Dr. Hewitt to explain the difference in the character of the swelling in obliteration of the inferior vena cava and innominate vein, except upon the fact that the lymphatics in the latter case were obliterated. Again, Dr. Rigby's well-known case, where no disease but of the lymphatics existed, was surely sufficient to establish the participation of the lymphatics. Dr. Hewitt's explanation of the production of phlegmasia dolens would explain only the puerperal cases, not those of cancer, phthisis, etc.

In answer to Dr. Druitt, who denied the mechanical cause of the disease, he desired to know how this would apply to a case where a cancerous tumor presses on the iliacs, and phlegmasia dolens appeared with great pain, but when the tumor descended into the pelvis, and got up behind the bladder to the other side, the pressure being removed, the disease and pain disappeared at once.

All discussion turned upon the use of fibrin in the economy. Virchow, Zimmerman, Cappie, and Simon believe it to be a result of cellular tissue, and brought to the blood by the lymphatics. That fibrin is not excrementitious seemed evident from its use in the economy and capability of organization; its mode of production, namely, result of elaborative (digestive and glandular) act, and oxidation of albumen; its chemical composition, unlike waste products; its relation to the pale corpuscles, being increased or decreased in direct ratio with them; its relation to connective tissue as shown by Liebig, hence it is the pabulum of areolar tissues; in the lower animals we see corpuscles existing before fibrin in the blood,—in the articule series we get fibrin, and with it the colorless nucleated cell,—and seeing always that the pale corpuscles keep in the blood stream inside, it seems not unlikely, indeed certain, that the pale corpuscles are related to the tissues outside in preparing the fibrin for the connective tissues. Where areolar tissue is, there are lymphatics, and vice versa; hence there must be some close connection. It seems that when the arterial blood reaches the areolar tissues the latter draw upon it for pabulum, and the excess is removed by the lymphatics. Obstruct the lymphatic circulation, as in phlegmasia dolens, and hypertrophy of the cellular tissue and gelatinization in the areolæ ensue.—(*London Lancet*, August, 1860.)

VI.—*The Influence of Slow Poisoning, by the Preparations of Lead, on the Product of Conception.* By CONSTANTINE PAUL, Paris.

From the valuable paper on this subject, we present the following summary of the researches of M. Paul, who, as an *interne* of the hospitals of Paris, has enjoyed ample opportunity for observation. Those women who handle type as polishers in founderies are most affected by saturnine diseases. He found, in a series of observations, four women had had fifteen ascertained pregnancies—of these ten ended in abortion, two in premature labor, one in still-birth, and one child lived but twenty-four hours.

In another series of cases, five women had an aggregate of nine children at term prior to exposure to the poisoning, and no accidents of pregnancy. Afterwards, they had thirty-six pregnancies, of which twenty-six aborted, one had premature labor, two ended in still-births, five children died, four in the first year, and two were living, one being puny and ailing, the other only three years old.

Another woman had five abortions, quitted the business, and bore a healthy child.

Another left the trade for two periods, bore in these intervals two healthy children, and, returning, had two abortions. The same influence was observed when the fathers were exposed. In seven cases, every woman had an abortion; of thirty-two pregnancies, twelve children were born prematurely. Of twenty living children, eight died in the first year, four in the second, five in the third, one after the third, and two remained.

In other observations, M. Paul showed that where the lead affection was less marked, there was a corresponding diminution of the effect upon the pregnancies.—(*Arch. Gén. de Méd.*, May, 1860.)

VII.—*Fatal Effects Arising from the Enlargement of the Thymus Gland in Children.* By G. S. BRENT, L.S.A., London.

On several occasions a fatal result has been observed from the enlargement, or perhaps non-absorption, of the thymus gland in young children. One case was that of a child aged two and a half years, well nourished, and in every way a fine boy, who died suddenly, after a slight illness of two days. He had two spasms just before death, but no apparent difficulty of breathing. The post-mortem revealed no external indication of the cause, and internally every organ was found healthy and natural except the thymus gland, which was preternaturally large and vascular; it weighed an ounce and a quarter. The effect of this condition would probably be pressure upon the adjacent nerves to such an extent as to irritate them, and occasion a spasm of the glottis, to which event the death was attributed.

In a similar case, Mr. Hemming, of Notting Hill, found the enlarged gland pressing upon the right recurrent nerve of the par vagum. In this case, the child was erroneously supposed to have swallowed some hot water.

Dr. Hayne, of Camdentown, encountered a case where the child was twenty months old, and death occurred very suddenly. The thymus weighed ten drachms. Many other instances have occurred where death took place, apparently from spasmodic closure of the glottis, where considerable enlargement existed. In the human subject, this gland increases in size very rapidly after the seventh month of fœtal life, and at birth varies from eighty-four to two hundred and forty grains in weight. At nine months afterwards, it is found to be about two hundred and seventy grains, after which it generally declines in size.

Kopp has noticed several cases of suddenly fatal dyspnœa in children, where the gland was of large size, and concludes that there is some essential connection between this enlargement and the suffocation.

According to Copland, Mr. Hood, of Kilmarnock, was the first to direct attention to this matter. He does not, however, even hint that the effects are other than mechanical, such as pressure on the veins at the top of the chest, inducing congestion and effusion in the head; and does not appear to suppose that this unusual size is accompanied by an increased nervous susceptibility. A correlation evidently exists between the size of the thymus and the development of the brain and impressibility of the nervous system. It has been observed in these instances of sudden death coincident with abnormal enlargement of this gland, that the children have been peculiarly forward and intelligent for their age. In the Cyclopædia of Anatomy and Physiology it is stated that "absence of the gland has only been observed in cases of acephalism, where the brain and many other parts have been simultaneously deficient." If it be true, then, that enlargement of the thymus has any relation to the greater development of nervous force, there will be a double reason why an unusual size or a non-absorption of this body should produce suffocative dyspnœa, viz., both from the greater excitability produced, and the inordinate pressure exercised by the gland in a state of turgidity.—(*Lancet*, Sept. 8, 1860.)

VIII.—*Treatment of Hooping-cough by Sulphate of Zinc and Extract of Belladonna.* By H. W. FULLER, M.D., London.

In this paper, read before the Harveian Society, the author alluded to the popular opinion that hooping-cough must run its course. This he combated by reference to the results of his own experience. His attention was directed to the matter by the inefficiency of the ordinary treatment, and the neglect of all measures to subdue the tendency to spasm. He regarded this affection as essentially one of bronchitic irritation, accompanied by reflex spasm of the air-passages, and believed the latter demanded the most serious attention, as it is not only painful, but may give rise to life-long mischief. He had found the administration of the sulphate of zinc, in rapidly increasing doses, to be the most successful method of subduing the spasm. He then referred to his discovery of the tolerance of belladonna by children, the condition being, that it should be given in divided doses at least four times daily, at first in small doses, which may be increased day by day, or on alternate days, by a corresponding amount. Dilatation of the pupil need not be regarded as a bar to its continuance, and if the precautions just noticed are observed, the daily dose of the extract of belladonna may be safely increased to a scruple or half a drachm without any unpleasant symptoms. These facts he brought to bear on the disease in question, and, from the conjoint use of sulphate of zinc and extract of belladonna, in rapidly increasing doses, he had obtained results highly beneficial. Rarely had he found the hoop to last above twenty-one days, and in some instances it had subsided in ten days. He gives the combination as soon as the hoop declares itself. If the attack is accompanied by much febrile excitement and bronchitic irritation, he prescribes a mixture of a drachm each of antimonial wine and wine of ipecacuanha to two ounces of water, of which a larger or smaller amount is given, according to circumstances. If necessary, he applies a blister to the chest. In all cases, however, the belladonna and zinc are perseveringly given. To children under three years of age, he begins by employing one-sixth of a grain of extract of belladonna and half a grain of sulphate of zinc four times a day, and to those above that age, a quarter of a grain of the former and a grain of the latter. The remedies are given in solution in water, and the dose of each substance is increased by a corresponding dose daily, or on alternate days, so that the child who began by taking a quarter of a grain of the extract and one grain of zinc at a dose, would be taking one grain of the extract and four grains of zinc at a dose either on the fourth, sixth, or eighth day, according to the rapidity with which the dose is increased.—(*Lancet*, July 28, 1860.)

IX.—*Convulsions in Children Treated with the Ethereal Tincture of Valerian.* By W. HARDEE, M.D., Savannah.

No claim is made by Dr. H. for the position of a discoverer, but having found this remedy highly beneficial in several cases, he is anxious to attract the attention of the profession to it. The cases were all from one to three years of age. He employs it in doses of four to six drops every fifteen to thirty minutes, until all twitching ceases, after which it may be continued according to circumstances along with other remedies for the particular indications. It may also be employed at the same time in the form of enema, say forty to sixty drops in flaxseed tea or water, the dose being graduated to the age and symptoms of the patient.—(*Atlanta Med. and Surg. Jour.*, Sept., 1860.)

PHYSIOLOGY.

BY S. WEIR MITCHELL, M.D.,

LECTURER ON PHYSIOLOGY IN THE PHILA. MED. ASSOCIATION.

I.—*Note on the Coloration of the Bones of the Fœtus, by the Action of Madder mixed in the Food of the Mother.* By M. FLOURENS.

It is near twenty years since I presented to the Academy (3d February, 1840.) two or three skeletons of pigeons, reddened by the action of madder which had been mixed, for a certain time, with the food of those animals. The last experiments of this kind were made in France, by Duhamel, a century before mine, viz., in 1739. These had been almost forgotten; mine were received with curiosity by physiologists.

Passing from my observations on birds to those on mammals, I presented to the Academy, February, 24, 1840, the skeletons of two or three puny pigs whose bones and teeth were completely reddened by the action of madder mixed with the food.

To-day I present to the Academy a fact much more curious, and as I believe quite new. Not only are the bones of the animal nourished with madder, but those of the fœtus reddened and made of a much deeper color, merely by submitting the mother to a diet mixed with madder during the last forty-five days of gestation.

In this instance the bones and teeth have both alike become red, and are even more deeply tinted than happens in cases where young animals have been directly fed on madder. No other tissues than the bones share in the coloration to which the other parts of the fœtus are subjected, and the periosteum, the cartilage, and all the viscera remain of their normal colors.

M. Flourens exhibited specimens in illustration of the above statements, and made certain inferences as to the communication between the blood of the mother and that of the fœtus.—(*Comptes Rendus.*)

II.—At the recent meeting of the British Association for the Advancement of Science many physiological papers were read. The following brief notice of some of them is given by the *Lancet, July 9th*, 1860.

A paper was read by Dr. Edward Smith, in which the action of tea and that of alcohol were contrasted, embodying the results of various researches he had made on the subject. He proved that the consumption of tea is increasing in all parts of the world, that it is beneficial and nutritive, and that the consumption of alcohol is decreasing. He gave the effects of each on the system, and showed the difference between the two; also the conditions in which tea was applicable and inapplicable. He showed the essential differences between the effects of coffee and of tea on the system, and all the highly interesting experiments referred to were chiefly performed upon himself and another person. An animated discussion took place, in the course of which Mr. W. Milner, surgeon to the Wakefield Prison, detailed a series of experiments, made with permission, on the prisoners, concerning the use of tea and other substances. His observations went to prove the correctness of Dr. Smith's statement, that tea does diminish the weight of the body, unless given with solid food. Dr. Smith asserts that the use of tea increases the waste of the tissues.

Mr. Garner read a paper on Certain Alterations in the Medulla Oblongata in Cases of Paralysis. The author showed that atrophy of the columns of the medulla oblongata, in cases of continued paralysis, is not rare, and touched upon the probability of an arrangement in the spinal cord by which the separate action of the extensor and flexor muscles in tetanus, etc. is caused. He illustrated the intimate connection of the olivary bodies with the posterior part of the medulla oblongata by tearing it down longitudinally, when they will always be drawn out backward with that part. The author connected the olivaries with speech and respiration. The paper also described the varied insertion of the optic and olfactory nerves with various parts of the encephalon, according as they were associated with the intellectual or locomotive functions. He did not believe in any distinct separation of the upper and lower columns in the invertebrata.

Contributions to the Theory of Cardiac Inhibition formed the subject of a communication from Dr. Michael Foster. A series of experiments were detailed, illustrating the action of various degrees of intensity of the galvanic current upon the contraction of the heart, through the agency of the pneumogastric nerves. These experiments were chiefly confined to the snail, but the crab and other animals were likewise operated upon, with results proving the inhibitory action of the heart.

An Experimental Inquiry into the Mode of Death produced by Aconite, by Dr. E. R. Harvey, was next read. The author's experiments, which were performed on dogs, rabbits, and frogs, went to prove that aconite acts first on the nerves and then on the muscles, killing by its action on the heart; the blood and urine were found normal; Fleming's Tincture was the preparation used. Among the various speakers was Sir Benjamin Brodie, who referred to his own experiments, made many years back, in which he had used the expressed juice of aconite; it acted as a narcotic, and arrested respiration first, and he had no doubt that if artificial respiration had been tried, the animal would have recovered, as in cases of poisoning by woorara. It seemed to him not improbable that different preparations of aconite produce various effects. Dr. Sharpey observed that, in some former experiments he had made with aconite, he obtained the same results as Dr. Harvey, namely, the action of the heart was stopped and the irritability of the muscles was extinguished; the nerves also leading to the affected muscles were deprived of their excitability.

Dr. Gibb read an interesting paper on Saccharine Fermentation within the Female Breast, and its Influence on the Child. He showed that from various causes of a constitutional nature, in which the nervous system played an important part, the saccharine element of the milk underwent fermentation at the moment of its secretion, and gave rise to the generation of two species of animalcules, namely, vibriones and monads. The milk containing these was usually rich in sugar, but owing to the fact of its having undergone fermentation within the gland itself, its healthy character was destroyed and it was not therefore capable of assimilation within the stomach of the infant, as evidenced by the most extreme degree of emaciation—in fact, the child was undergoing starvation. The animalcules were developed within the breasts. The author had proved the correctness of his views, in a series of experiments and researches into this question since 1854. In the discussion which ensued much credit was given to the author for his labors in this novel field of inquiry, and numerous questions were put to him in relation to the condition of the blood and other fluids, in such conditions as he had described.

Professor Corbett read a paper on the Deglutition of Alimentary Fluids, in which he attempted to prove that the epiglottis did not always fall back upon the glottis during the swallowing of fluids. This was denied by some of the speakers, who thought it always did occur.

One of the most valuable papers of the physiological section, was an elaborate one from Mr. Arthur E. Durham, being An Experimental Inquiry into the Nature of Sleep. He described the appearance of the brains of animals, as seen through openings made in their skulls, and, supporting by a process of ingenious reasoning his hypothesis upon this most important subject, Mr. Durham stated that during sleep the brain was pale and comparatively bloodless; that during functional activity the pia mater and brain substance were highly injected and full of rapidly-moving blood. He suggested that the increased amount of oxygenated blood coursing through the vessels during wakefulness was the cause of the functional activity of the brain, and that the opposite state of the circulation gave rise to the cerebral inactivity of sleep. The state of sleep was accurately distinguishable from that occurring in all varieties of coma. Mr. Durham's views were ably supported by Professor Draper, of New York, but dissented from by Dr. Beale.

Dr. Beale demonstrated, by a series of preparations and diagrams, how every elementary fibre of striped muscle was abundantly supplied with nerves. He believes that every single fibre receives one or more nervous fibres, which will be found hereafter to account for complicated muscular movements. Wherever these minute nerves are distributed are found little oval bodies, which are the means of communication between the muscular and nervous fibres. These nerves are found to be more numerous in some muscles than in others—the tongue and diaphragm for example—and are surrounded by multitudes of these oval bodies. The nervous fibres are constantly undergoing decay and being reproduced. Dr. Beale's discovery is one of considerable value in physiology, and much importance was attached to it by the Association.

Dr. B. W. Richardson read a lengthy paper on the Influence of Oxygen on Animal Bodies. He enumerated a series of laborious experiments on the inhalation of oxygen. By these he established two major propositions:—1. That the influence of pure oxygen on animals varies according to the animal, being most marked in those of quick respiration and high temperature, and less marked in those of feeble respiration and lower temperature. 2. That oxygen gas, breathed over and over again, and freed entirely from any substances which we yet know as products of respiration, loses the power of supporting life, the vital process ceasing, not from the introduction of a poison, but as by a negation or a withdrawal of the vivifying principle.

The Physiological Relations of the Coloring Matter of the Bile was the subject of the next paper, by Dr. Thudichum. He had subjected various specimens of chlorochrome (as he proposed to term the substance) to chemical analysis, and found that it was an amido-acid, and nearly related to the other acids of the bile. Its precipitation from solution in bile, when it occurred already in the gall-ducts, by a process closely resembling that of putrefaction of bile in a bottle, was an ascertained cause of so-called idiopathic jaundice. He described various products of decomposition of chlorochrome; among them chlorochromic acid, a substance which microscopically closely resembled hæmatoidine.

MATERIA MEDICA AND THERAPEUTICS; MEDICAL CHEMISTRY; TOXICOLOGY AND LEGAL MEDICINE.

BY EMIL FISCHER, M.D.

MATERIA MEDICA AND THERAPEUTICS.

I.—*On the Employment of Stearate of Iron in the Treatment of Soft or Phagedenic Chancres.* By M. RICORD. (Pharmaceutical Preparations of M. Braille.)

From a communication of M. Calvo, nephew of M. Ricord, we learn that the latter has employed for several months, in the *Hôpital du Midi*, an ointment or plaster of stearate of iron, prepared by M. Braille, pharmaceutist of the institution, to whom we are indebted for this excellent means of dressing soft or phagedenic chancres.

This new preparation, which can be prepared at a low price, and is of easy application, is destined, without doubt, to render great service in all those cases of so serious a character where the phagedenic action seems to resist the numerous means which science directs against it, and continues its destructive march without interruption. Up to the present time, at least, it has fulfilled, in the hands of M. Ricord, all that it seemed to promise, and has become of daily use in his hospital as well as in his private practice.

The *modus faciendi* of these new preparations, as communicated by M. Braille, is the following:—

Ointment of Stearate of Iron.—℞. Sulphate of Iron, 500 grammes; Marseilles Soap, 1000 grammes.

Dissolve the sulphate of iron in about 1500 grammes of water, and dissolve the Marseilles soap in an equal quantity of water. On pouring one solution into the other, a whitish-green precipitate is obtained, which is dried, and then melted at a moderate temperature (80° to 84° R.;) add to the melted mass, on cooling, 40 per cent. of essence of lavender, and stir it constantly until it becomes perfectly cold.

Sparadrap of Stearate of Iron, (*Braille's Plaster.*)—℞. Stearate of Iron, q. s., obtained by the process directed above.

Melt it at a moderate temperature, and spread it on muslin like the ordinary sparadrap. This mass gives an adhesive sparadrap, which does not crack like the soaps of lead obtained by double decomposition.—(*Journal de Pharmacie et de Chimie,* June, 1860.)

II.—*Hydrochloric Acid in Chronic Dyspepsia.* By DR. SCHOTTIN, of Dresden.

Dr. Schottin has used hydrochloric acid with great success in cases of chronic dyspepsia. The curative effect of the remedy is attributable to two circumstances: First, it suspends, like other powerful acids, the process of fermentation; and, secondly, it serves to dissolve the proteinaceous compounds, being, to a certain extent, a substitute for the disturbed secretion of the gastric juice; it is, therefore, the most natural remedy. In children who suffer from gastric and intestinal catarrh, the author prescribes the acidum muriaticum dilutum of the Prussian pharmacopœia, in doses of six to fifteen drops, in a mucilaginous mixture, and adds, until the bowels are regulated, a few drops of tincture of opium. He orders the medicine to be taken half an hour after each meal, and confines the patient to a diet of milk and broth. In old age, when the strength of the system is gradually failing, disturbances of digestion are very frequent, the cause of which is to be found, in many instances, solely in a diminished secretion of the gastric juice. A double indication is to be fulfilled in these cases: to arrest the process of fermentation, and to stimulate the stomach, in order to increase the secretion of the gastric juice. Dr. Schottin recommends for this purpose small doses of chloride of sodium and sulphate of quinia, to be followed, a short time afterwards, by sulphuric acid. The chloride of sodium is decomposed by this means into sulphate of soda, and hydrochloric acid. He prescribes ten grains of chloride of sodium and one-third of a grain of sulphate of quinia, to be taken four times a day wrapped up in a wafer, lets the patient drink some water after it, and administers, about five minutes later, eight to twelve drops of the elixir acidum Halleri in half a wineglassful of water.

The dyspepsia of drunkards requires a double dose of chloride of sodium and sulphuric acid. Dr. Schottin attributes the effect of hydrochloric acid in typhus, anæmia, and chlorosis likewise to its property of suspending the process of fermentation within the stomach, and of exciting the deficient secretion of the gastric juice.—(*Archiv der Heilkunde*, I. 2, and *Med. Central Zeitung*, April, 1860.)

III.—*Hydrocotyle Asiatica in Chronic Eczema.* By M. Hillairet.

The physiological action of this umbelliferous plant manifests itself, according to the author, by symptoms of more or less intense irritation of the gastro-intestinal canal, vomiting, borborygmus, diarrhœa, and loss of appetite, which are, however, of a transient character, and are never accompanied by narcotic symptoms, as stated by Devergie and Lecoq. Contrary to the experience of Boileau, Lépine, and others, the author has found the hydrocotyle Asiatica perfectly useless in lepra tuberculosa, but has administered it successfully in chronic eczema. He reports five cases of this disease, which occurred in his own practice; of these cases two were completely cured, two ameliorated, and one received no benefit from the treatment. He made use of the alcoholico-aqueous extract, which he prescribed in gradually increased doses, amounting to 0·75 and 1·50 grammes during twenty-four hours. In one of the cases, which he reports in full, the cure was established within two months.—(*Gazette des Hôpitaux*, No. 26, 1860.)

IV.—*Piperin in Intermittent Fever.* By Dr. Meli.

Dr. Meli, of Venice, as the results of numerous experiments, comes to the following conclusions:—1. The febrifuge power of piperin is both energetic and rapid. 2. Its activity is much greater than that of cinchona. 3. It is more convenient than cinchona, and its succedanea, exhibiting a great activity in a very small compass. 4. It neither changes, retards, nor suppresses any secretion or excretion. The alvine dejections are regularized, and the urinary secretion is rendered active.—(*Presse Belge*, No. 22, and *Med. Times and Gazette*, July, 1860.)

V.—*Arsenic in Apoplectic Congestion.* By M. LAMARE-PICQUOT.

M. Lamare-Picquot, Physician to the Honfleur Hospital, as the result of ten years' observation and trial upon between forty and fifty cases, including his own among them, strongly recommends the prolonged use of arsenic as an effectual means of subduing congestion likely to give rise to apoplexy. In very urgent cases, in which hemorrhage seems imminent, he precedes its employment by a moderate venesection, but this is quite exceptional. In proportion to the severity and menacing danger of the case the dose requires to be larger; and although, even after a month, benefit may already result, to be of permanent benefit it will have to be continued for several months. The more urgent the case, the more tolerant does the system become of the arsenic.

The author, regarding apoplexy as consisting essentially in an excessive increase of globules of the blood, employs arsenic as a powerful agent for decreasing these, as well as the plasticity of the blood. It becomes, of course, necessary to assure one's self in a given case of the richness of the blood, for to employ arsenic when the blood is impoverished would be to do mischief. The author has generally found the dose of gr. $\frac{1}{15}$ to $\frac{1}{6}$ per diem sufficient.—(*Bull. de Thérap.* tome lvii., and *Med. Times and Gazette*, July, 1860.)

VI.—*Asarum Europæum a Remedy for the Effects of Drinking.*
By DR. SMIRNOFF.

Dr. Smirnoff states that he has become convinced, from repeated trials, that the *asarum Europæum* well deserves the reputation it has obtained in Russia of being an excellent remedy for the effects of drinking.

The influence of a continuous abuse of alcoholic drinks is first exerted locally, but afterwards dyspepsia is produced; and the nutrition and functions of the entire economy, especially of the central portions of the nervous system, becoming interfered with, the blood itself being loaded with an injurious foreign material, the *dyscrasia potatorum* is at last completely established.

The asarum fulfills various indications, acting beneficially on the alimentary canal in those cases in which the digestive powers are so much at fault. Its aromatic principle confers upon it a stomachic power, and regulates the condition of the intestinal discharges, producing vomiting and purging when given in large doses. Its most beneficial action, however, is manifested on the defective appetite, and by its counteracting the invincible longing for alcohol. The horrible sensations with which the drinker awakes in the morning and which compel him to seek temporary and delusive relief from renewed libations, are much blunted and mitigated by means of a glass of strong infusion of asarum and some other nervine—*e.g.* valerian. Its immediate effect is often to produce vomiting and sometimes purging; but the painful sensations at the epigastrium undergo relief, and the appetite becomes invigorated. Persons who have been long habituated to alcoholic drinks cannot, however, have these suddenly suppressed with impunity; and in such cases the author gives the asarum in brandy, applying at the same time a blister or an issue to the pit of the stomach. By this means the normal activity of the stomach becomes excited and the longing for alcohol diminished.

The author, however, cannot agree with those who would still allow a small quantity of spirits to habitual drinkers, even when the morbid desire for it has become appeased. The continuous use of a decoction of asarum, even when it does not succeed in extinguishing the desire for alcohol, always supports the powers of the patient; and it is remarkable in some cases, in which the individuals have been long accustomed to periodical intervals of drunkenness, ending in delirium tremens, how much longer those intervals will become, and how much less likely delirium tremens is to recur. The patients themselves are sometimes surprised at the comparative impunity with which they can continue their drinking. The author prescribes three or four glasses a day of an infusion made with ℥iij of asarum root, ℥i of valerian root, and ℥ss of orange-peel, but he does not state the quantity of water employed. In cases of drunkenness, another formula is composed of decoction of asarum, (made by boiling from ℥ss to ℥j of the root,) ℥vj, tincture of valerian, ʒij to ʒiij, Sydenham's laudanum, gtt. xij, syrup of orange-peel, ℥ss. A tablespoonful of this is taken every two hours. He finds from two to five grains of bismuth, taken four times a day, a valuable adjunct. He has also found the following popular Russian remedy of service in cases of drunkenness:—℞. Ammon. carb., ℥ss; aceti vini, lbj; oxymel scill., ℥ss. Two tablespoonfuls every two hours.—(*Med. Zeit. Russlands*, and *Med. Times*, July, 1860.)

VII.—*On the Employment of Saccharate of Colchicum in the Treatment of Gout and Articular Rheumatism.* By DR. JOYEUX.

From a great number of cases which have come under the author's observation, he draws the following conclusions:—1. That the saccharate of colchicum, prepared with the fresh juice of the flower, is one of the most reliable remedies which the physician can employ in order to combat the symptoms which depend upon the gouty or rheumatic diathesis. 2. That the curative effects of colchicum are not owing to its irritating action upon the alimentary canal, but to the sedative power of the alkaloids which it contains; and that, consequently, it is of advantage to administer it in fractional and gradually increasing doses, so as to avoid its purgative effect.

The saccharate of colchicum employed by M. Joyeux is prepared with 100 grammes of the fresh juice and 500 grammes of sugar, and evaporated to dryness *in vacuo*. He uses also an extract of the juice of colchicum, evaporated *in vacuo*, as an external application, directing it to be rubbed on the painful parts. The saccharate is given in the average dose of four grammes per diem, divided into ten parts, one of which is taken every hour.

"Since I have made use of these preparations," says the author, "I have not met with a single case of gout which did not yield to treatment in two or three days. Acute articular rheumatism disappeared in the space of fifteen to twenty days. In subacute rheumatism, without obtaining an equally satisfying result, I have witnessed a great amelioration. I have found it of advantage, in the majority of cases, to let the patient take, as adjuvant, an infusion of lime-tree blossoms, containing nitre, in the proportion of two grammes to one litre of tea.—(*Gazette Médicale de Strasbourg*, 1860, No. 2, and *Gaz. Hebdom.*, May, 1860.)

VIII.—*On the Use of Chloride of Iron in Cutaneous Diseases.*

By M. DEVERGIE.

From the experiments which the author has made with this remedy in the Hôpital Saint-Louis, he arrived at the following conclusions:—1. The internal administration of chloride of iron is followed by excellent success in purpura hæmorrhagica and purpura simplex. 2. Its internal use is also advantageous in combating the cachectic and anæmic condition which often accompanies certain diseases of the skin, (rhypia, ecthyma cachecticum, impetigo scabida, and atonic ulcers of the leg.) The remedy is given internally in the dose of ten to thirty drops daily, in the form of julep. In active hemorrhage it is less efficient. 3. Chloride of iron, applied externally, may serve, according to the different degree of concentration, as a "modifying" agent in wounds, atonic, scrofulous and syphilitic ulcers, as well as in chronic diseases of the skin attended by secretion, and may therefore be used with great advantage in these affections. 4. The application of chloride of iron in the form of ointment is best suited to the declining stage of secreting diseases of the skin; strong ointments of this kind, however, exercise a modifying influence also upon cutaneous diseases of a scaly character.—(*Bull de Thérap*, lviii., April, 1860.)

IX.—*Ether as a Remedy for Deafness.*

The attention of the public, both medical and non-medical, has been of late attracted by a fact which, though in its origin and early phases going back some years, is of interest through the publicity given to it by the official journal of the University of Paris, as well as through the daily press.

To state the question briefly:—About the month of August, 1855, a certain Mademoiselle Cléret, a private governess, inhabiting a populous part of Paris, applied to the Minister of Public Instruction for assistance, basing her application, among other grounds, upon her knowledge of a method of causing the deaf and dumb to hear. This method, the discovery of which was accidental, and of which she had made a successful trial upon some pupils suffering from deafness, after having experienced its efficacy in her own person, consists in the use of sulphuric ether dropped direct into the external auditory canal, at the rate of four, five, six, or eight drops per day. After the application of the remedy for fifteen or twenty days, its use may be suspended some days, and then renewed: it may be continued, if not indefinitely, at least for a very lengthened period.

A commission appointed by the minister, and of which the medical element included M. Lélut as president, M. Béhier as secretary, and the late M. Bérard, was deputed to examine into the state of the children submitted to it by Mademoiselle Cléret. The commission pursued its investigation with the utmost diligence, until upon a sudden the lady was seized with a fearful malady. After having waited, without much hope, an improvement in the mental condition of Mademoiselle Cléret, the commission drew up its report, although the question, necessarily suspended, did not appear susceptible of being brought to a definite conclusion, or to a complete and demonstrative result. It considered, however, that it was its duty to make known such facts as it had witnessed: this it did in the following terms:—

Twenty-nine children have been treated by this lady; all with beneficial results. Two of those brought by her before the commission, and who had been treated by her previously, were completely cured. Seven children have been submitted to the commission previous to any trials being made upon them, and their absolute deafness and dumbness demonstrated by Mademoiselle Cléret; and in all cases, but especially in four, a manifest change has been perceptible after eight or nine months of treatment, and the patients have been able to recognize with great ease various sounds. The reporter to the commission has been careful to add that the most minute precautions were taken to avoid sources of error, and to guard against any illusion that might arise from perception derived through another sense than that of hearing.

The commission wishing to test the means used by Mademoiselle Cléret upon other cases than those exclusively under her own care, deputed one of their number to carry out her plan of treatment upon other patients. Twenty persons were accordingly entrusted to him; most of them were deaf-mute children, but there were also some old men whose hearing was impaired, in some cases upon one side only. In all these a very noticeable effect was produced. It was also found that patients whose sense of hearing had become impaired through typhoid fever were very speedily restored by the same treatment.

In conclusion, the commission state that, with the exception of two or three children, whose deafness and dumbness was attested by authentic certificates, and who now hear well, it has determined nothing but the incomplete results of experiments commenced, but not terminated, which manifest improvement, but nothing more definite.—(*Gazette des Hôpitaux*, 8th May, 1860, and *London Pharmaceutical Journal*, August, 1860.)

X.—*History and Pretensions of Cod-Liver Oil.* Synopsis of a Lecture Delivered by Robert R. McIlvaine, M.D., before the Academy of Medicine of Cincinnati, February 6, 1860. (Reported by J. A. Thacker, M.D., Recording Secretary.)

After the minutes of the last meeting were read and approved, the president announced that the subject for discussion for the evening was, the History and Pretensions of Cod-Liver Oil as an Antidote for the several Diseases for which it is applied.

Dr. Robert R. McIlvaine was here introduced, who, after a few preliminary remarks concerning the Academy, and the nature of its organization, proceeded to discuss the subject as announced.

He said they had met to-night to inquire into the claims and pretensions of cod-liver oil as a therapeutic agent. It was claimed, that at a period previous to Christian civilization, fish-liver oil had been in use as a medicinal agent, and in proof of which, its enthusiastic advocates had quoted as authority the apocryphal books of the Bible, to wit, Tobit, chapter vi. But he would say, for the information of those whose pious scruples forbade them to read the apocrypha, or, for other reasons, that the word oil is not found in the record.

He then spoke of the traditional claims set up for it in Holland and England, from time immemorial, as a popular remedy; but the first who brought it before the notice of the profession was the great Nicholis, in Germany, about the year 1775. The next author of distinction that introduced it to the notice of the profession was Percival, of England, about the year 1785, or, as some say, 1790.

Be this as it may, the curative properties ascribed to it then were very dissimilar to those said to be possessed by it now.

The doctor then passed on to the inquiry as to whether the cod-liver possessed any function peculiar to itself. He spoke of the discovery of the great Bernard, of France, in the liver of the mammalia, and its function of sugar-making.

In his research, however, he discovered that this property is not peculiar to that class, but is also possessed by the galliguassi, fishes, and reptiles. Most of the representatives of each of these families, with the exception of the fresh codfish, Bernard had tested; to test this latter was impossible, as the distance from which it could be obtained was too remote for him to make the experiment. Hence the doctor stated, that when leaving France, in August, '59, he prepared himself with the necessary tests, tubes, and apparatus for experiment, in case an opportunity should offer when arriving at the Banks of Newfoundland. On the twenty-fifth of the same month, this opportunity was afforded. On that day, while the ship City of Washington, in which he sailed, was laying too, off the Banks, to send out her news, he procured some fresh codfish from the fishermen, and succeeded in putting beyond controversy the fact that the law that is universal in all animals is not excepted in the case of the codfish.

Here the doctor exhibited the identical sugar to which he had alluded, with specimens of his research since his return to this city, including sugar obtained from the livers of the pike fish, the catfish of the Ohio, the white-fish of the lake, with other specimens obtained from the three great families before alluded to—among them was one from the tortoise, a representative of the reptile family.

This, we believe, is the first demonstrative lecture ever delivered upon the subject in Cincinnati.

He then went on to inquire what were the properties and affinities of cod-liver oil as compared with other oils; for, said he, if it possesses the same ultimate principles as other animal oils, then the claims of its advocates are well.

The doctor then went into an examination of animal oils, quoting from the analyses of gentlemen whose names, he said, were a strong tower, the granite columns in the Esculapian temple, to wit: Chevereul, Lecaun, Pellitier, and Bernard; and, with such names to sustain him in his position, he did not fear to be successfully controverted. These, he said, were his great moral barricades; their demonstrations, like a wall of fire, defensive and offensive.

It has been demonstrated, he said, that the fatty principles derived from the bodies of animals are very analogous, in composition and properties, to the vegetable fixed oils—the latter being employed on account of the expense of the former in Britain and elsewhere. Their ultimate elements are carbon, hydrogen, and oxygen; and most of them, like the fixed oils, consist of two or more definite compounds.

The annexed table, which he repeated, made up from the analyses of the before-mentioned gentlemen, shows the composition of several animal fats, and of their products, reference being had to 100 parts:—

	Carbon.	Hydrogen.	Oxygen.
Human fat	79·000	11·416	9·584
Oleine of human fat	78·566	11·447	9·987
Hog's lard	79·098	11·146	9·756
Oleine of lard	79·030	11·422	9·548
Mutton suet	78·996	11·700	9·304
Oleine of same	70·354	11·090	9·556
Spermaceti	79·500	11·600	8·900
Glycerin	40·071	8·925	51·004
Margarine	74·	74·	12·

	Carbon.	Hydrogen.	Oxygen.
Cod-liver oil, by Dugal Campbell . .	80·18	13·72	58·54

The doctor then proceeded to give the composition of a number of vegetable oils, which is exhibited in the following. These analyses are by Liebig, Theinard, Gay-Lussac, Wöhler, Dumas, and Ure.

	Carbon.	Hydrogen.	Oxygen.
Olive oil	77·213	13·360	9·427
Camphor	79·280	10·360	10·360
Oil peppermint	77·300	12·600	10·100
Oil anise	81·400	7·980	10·620
Oil cloves	70·020	7·420	22·560
Oil bitter almonds	79·560	5·560	14·880
Rosemary	45·	38·	2·

He remarked that there is no essential difference between fat and oil, only one has a greater tendency to the fluid state than the other. Fatty substances, both in the vegetable and animal kingdom, seem to be identical.

He drew the attention of the Academy to the fact that the portion of carbon contained in the oil of the bitter almond was almost the same as in cod-liver oil, the first being 79·56 of carbon, and the second 80·18. This oil, he said, was much pleasanter and far less disgusting than the cod-liver oil.

He also examined into the claims of glycerin, which some were proposing as an appendix to cod-liver oil; he showed its proportions and the fallacy of such pretensions.

The doctor then spoke of the uncertainty of the action of cod-liver oil; that even its advocates assumed that months of use were necessary before any amelioration from its effects could be expected; and, that its action in scrofulous phthisis was null. For these opinions he quoted the high authority of Tauffheil, an author of distinction, who, with Donovan, denies its curative properties any way owing to iodine.

Indeed, the pretensions of the iodine advocates, although not inconsiderable, have themselves failed to make out their case successfully. Though they began as early as 1806, they had not agreed among themselves until 1839, that such an element existed; and now, in our day, no author of distinction claims it as a cause of efficiency. He then quoted the authority of Bretonneau in sustaining him, that the same indications had been fulfilled with the whale oil and common oil of other fishes, as with the cod-liver oil.

He then spoke of the evil effects of cod-liver oil, and in this he was sustained by no ordinary name, as the attention of the profession had been called to it by the great Hobeke, of Belgium, who observed that, by the continued use of it, the pelvic bones had become deformed in women, who, before, had borne children without unusual difficulty. Observe, says he, that the diseases for which it is claimed the most efficient are rachitis and strumous diseases; it is true, that others have claimed efficiency for it in rheumatism and gout, though, in these respects, its advocates have not been decided.

Another name of distinction appears on the list, who supposed he had achieved immortality for himself, by associating his name with it, in the cure of phthisis. To Pereira, of Bordeaux, belongs the honor of introducing it to the profession in this connection. He wrote a book on the subject, presented to the Academy of Science of France, containing numerous supposed cases and professed cures; but his cases, when critically examined, became "small by degrees," and his cures "beautifully less," and the hopes he had inspired in others never realized.

Thus has it been with this so-called potent agent, weeks and months being necessary to demonstrate its supposed efficacy. Let us then be honest, and admit we have not found in this oleaginous body, disgusting and nauseating as it is to the taste, and offensive to the smell, the antidote for our woes that the non-progressive in our profession would have us believe.

He enumerated other authors of this system, and designated them the lights of the hour, the blind leaders of the blind, against whom the verdict of posterity will be, that they are the usurpers of places for the time being, satisfied with indorsing doctrines not demonstrated. They had caused much money to be wasted, and had thereby further impoverished the indigent by their mistaken notion of the subject upon which he had treated, being a remedial agent—a sort of panacea—against which common sense enters its protest.—(*The Druggist*, Cincinnati, August 15, 1860.)

XI.—*A New Alkaloid in Coca.*

Coca is the name under which the leaves of several species of erythroxylon are and have been known in Peru from time immemorial, and which, especially among the Indians, mixed with a little unslaked lime or wood ashes, are used for chewing. (Vide *North American Med.-Chir. Review*, March, 1860, p. 340.) Numerous and somewhat fabulous accounts are given of their physiological action; as for instance, in "Tschudi's Travels in Peru." A moderate use is said to produce excitement of the functions, to enable the chewer to remain some time without food and to bear the greatest bodily exertions, while an immoderate chewing of coca, like that of opium, frequently becomes an habitual vice, producing all the deleterious symptoms and consequences of narcotics, such as a state of half intoxication, half of drowsiness, with visionary dreams, premature decay, complete apathy, and idiocy. These peculiar symptoms rendered the presence of a narcotic principle very probable, and have induced Professor Wöhler and Dr. Niemann, of Göttingen, to undertake the investigation of the substance. The material was furnished by Dr. Scherzer, the naturalist of the exploring expedition in the Austrian frigate Novara. The examination has so far succeeded, by the usual method for the separation of alkaloids, in eliminating a crystallizable base, *cocaine*, crystallizing in small prisms, devoid of color or odor, slightly soluble in water, more readily in alcohol, and very easily in ether. It possesses a strongly marked alkaline reaction and a bitter taste, and acts in so far peculiarly, as it transiently benumbs, or almost paralyzes the part of the tongue which it touches. It bears some resemblance to atropine in its chemical relations, and forms perfect salts with the acids. It is, however, without action on the eye, and its compound with the chloride of gold is remarkable for forming benzoic acid in large proportion upon being heated. Further experiments will throw light on its physiological properties.—(*Druggists' Circular*, August, 1860.)

XII.—*Action of Different Medicines on the Mental Faculties.* By PROFESSOR OTTO.

All stimulant and exciting medicines increase the quantity of blood that is sent to the brain. If this quantity exceeds a certain amount, then most of the faculties of the mind become over-excited. Nevertheless the degree of this action is observed to vary a good deal in different cerebral organizations; and it is also found that certain stimulants exercise a peculiar and characteristic influence upon special or individual faculties. Thus ammonia and its preparations, as well as musk, castor, wine, and ether, unquestionably enliven the imaginative powers, and thus serve to render the mind more fertile and creative. The empyreumatic oils are apt to induce a tendency to melancholy and mental hallucinations. Phosphorus acts on the instinct of propagation and increases sexual desire; hence it has often been recommended in cases of impotence. Iodine seems to have a somewhat analogous influence, but then it often diminishes at the same time the energy of the intellectual powers. Cantharides, it is well known, are a direct stimulant of the sexual organs, while camphor tends to moderate and lull the irritability of these parts.

Of the metals, arsenic has a tendency to induce lowness and depression of the spirits, while the preparations of gold serve to elevate and excite them. Mercury is exceeding apt to bring on a morbid sensibility, and an inaptitude for all active occupation.

Of narcotics, opium is found to augment the erotic propensities, as well as the general powers of the intellect, but more especially the imagination. Those who take it in excess are, it is well known, liable to priapism. In smaller doses it enlivens the ideas and induces various hallucinations, so that it may be truly said that, during the stupor which it induces, the mind continues to be awake while the body is asleep. In some persons opium excites inordinate loquacity. Dr. Gregory says that this effect is observed more especially after the use of the muriate of morphia. He noticed this effect in numerous patients, and he then tried the experiment on himself with a similar result. He felt, he tells us, while under the operation, an invincible desire to speak, and possessed, moreover, an unusual fluency of language. Hence he recommends its use to those who may be called upon to address any public assembly, and who have not sufficient confidence in their own unassisted powers.

Other narcotics are observed to act very differently on the brain and its faculties from opium. Belladonna usually impairs the intellectual energies; hyoscyamus renders the person violent, impetuous and ill-mannered; conium dulls and deadens the intellect, and digitalis is decidedly anti-aphrodisiac. Hemp will often induce an inextinguishable gayety of spirits; it enters into the composition of the intoxicating drink which the Indians call *bauss*. The use of the *amanita muscaria* is said to have inspired the Scandinavian warriors with a wild and ferocious courage. Tobacco acts in a very similar manner with opium, even in those persons who are accustomed to its use; almost all smokers assert that it stimulates the powers of the imagination.

If the psychological action of medicines were better known, medical men might be able to vary their exhibition, according to the characters and mental peculiarities of their patients. The treatment of different kinds of monomaniacal derangement also might be much improved, and it is not improbable but that even a favorable change might be wrought on certain vicious and perverse dispositions, which unfortunately resist all attempts at reformation, whether in the way of admonition, reproof, or even of correction.—(*Zeitschrift für die Gesammte Medicin*, and *Medico-Chirurgical Review*, July, 1860.)

Medical Chemistry.

I.—*On the Amount of Water contained in the White and in the Gray Substance of the Brain, and on the Relation of the same to Œdema of the Brain.* By M. Marcé.

M. Etoc Demacy has made the assertion in his thesis (1833) that the anatomical cause of the stupidity of insane persons is œdema of the brain. With reference to this statement the author examined carefully the two substances of the brain, and found at 100° C. the following amount of water in 100 parts:—

	Gray Substance.	White Substance.
Man (on an average)	80	70
Sheep	83·6	70
Calf	85·6	69·8
Ox	92·6	63·7
Rabbit	79·2	64·3
Pheasant	82·7	76·9
Owl	76·2	66·7

In man, as well as in the other animals, the gray substance contains accordingly more water than the white substance.

The author also endeavored to find out whether the brain could absorb more water than it originally contained. He injected pure water into a healthy brain, and then determined the amount of water it contained; further, he submerged pieces of brain, after weighing them, in water for twenty-four to forty-eight hours and longer, and then weighed them again. He found that the pieces had absorbed fifty per cent. of their weight of water, and that thus thirty parts of solid substance did not correspond any more to seventy, but to one hundred and fifty parts of water. The fact was confirmed by the examination of brains the meninges of which were infiltrated with serum; they were proved to contain more water than the normal brain, particularly in the gray substance, (for instance, eighty-five and ninety per cent.)—(*Journal de la Physiologie*, III. 9, p. 213, 1860.)

II.—*On Uroglaucine.* By Dr. Kletzinsky, of Vienna.

Dr. Kletzinsky, of Vienna, has demonstrated that *uroglaucine* of Heller, *urocyanine* of Aloys Martin, *cyanourine* or *cyanurine* of Braconnot, is identical with indigo. Dr. Kletzinsky was seven years collecting samples of uroglaucine, and in that time succeeded in getting two drachms of the blue coloring matter of urine, which he submitted to a rigid analysis. This analysis furnished the formula, $C_{16}H_5AZO_2$, which is that of indigo. The identity of the two substances is thus placed beyond doubt.

It is remarkable that, according to the experiments of Kletzinsky, the indigo of the urine perceptibly increases after the administration of even small doses of creosote, or of essence of bitter almonds. These facts are, however, not sufficient to establish its mode of formation in the organism; we only know that it augments, especially under the influence of certain irritations of the spinal cord or of its nerves, and in various diseases of the kidneys, and in certain diseases of the serous membranes, with exudation.—(*Gaz. Hebdom.*, and *St. Louis Med. and Surg. Journal*, September, 1860.)

Toxicology and Legal Medicine.

I.—*Means of Distinguishing Blood-Stains on an Instrument covered with Rust.* By MM. Lesueur and Ch. Robin.

In cases where it is the question to distinguish a stain of blood from a stain of rust, it may happen either that the stain is extremely small, or that either substance is superposed. In both cases chemical reactions become impossible. It is in a case of this description that MM. Lesueur and Robin recognized a very small quantity of blood, scarcely forming a coat, upon an instrument covered with rust. They scraped off, with the aid of a scalpel and magnifying glass, a small portion of the stain, and allowed it to fall in a drop of solution of sulphate of soda, rendered slightly alkaline by the addition of a small quantity of caustic soda; they then examined it by the microscope, with a magnifying power of 520 diameters. At first the substance appeared entirely homogeneous, but at the end of half an hour, it was very much swelled, and at the end of another half hour, it seemed to be formed of globules, which could be separated from each other by moving the plates of glass upon each other. These globules were recognized as blood-globules of one of the mammalia, and could, therefore, be owing to human blood.—(*Journ. des Conn Med. et Pharm.*, and *Journal de Médecine de Bordeaux*, August, 1860.)

II.—*Experimental Researches on Death by Drowning.* By J. H. S. BEAU.

What is the cause which prevents the free entrance of surrounding fluid into the respiratory passages of those who are drowned? The author proposed this problem; to solve it, he instituted and practiced three series of experiments: he took the important precaution of employing very small dogs, as, wishing to submerge them immediately below the surface of the water, he could observe their movements easily, and with the aid of an assistant maintain them in this position. He observed that the immersion of the natural orifices of respiration is, with animals who drown in ordinary circumstances, the condition from which results, by sympathetic or reflex action, the spasmodic closure of the sphincters or orifices of the respiration, and the arrest of the respiratory movements. As to the very small quantity of frothy water which is found in the bronchial tree, it enters at a single inspiration, made quickly at the moment when the animal is surprised by the immersion. From which it results that death by drowning has the greatest resemblance to that which supervenes in consequence of a tetanic affection of respiration. The paper was referred to a committee of Flourens, Milne Edwards, and Bernard.—(*Gaz. Hebdomadaire*, and *Cleveland Med. Gazette*, September, 1860.)

III.—*On the Influence of strong external Pressure upon the Formation of Suggillations.* By Dr. MÖLLER.

The occurrence of a case, in which it was of importance to decide whether the appearance of suggillations could be prevented by strong external pressure, induced the author to make a number of experiments on frogs, rabbits, and cats, in which he put partly single extremities, partly the head and the upper portion of the body between two small boards, which were quickly pressed together by means of screws or an iron weight, and removed after twenty to thirty minutes, the position of the parts being left undisturbed. These experiments proved without doubt, that the formation of suggillations is prevented by strong external pressure. In every place where the bones had resisted and protected a part, or where the pressure had been warded off for a time by violent movements, extravasations had taken place. On the contrary, suggillations were never formed in those parts which exhibited the effects of strong and continued pressure—viz., where the bones were crushed and the soft parts flattened.—(*Casper's Zeitschrift für Gerichtliche Medicin*, XVII. 1, 1860.)

IV.—*Researches on the Dangers presented by Schweinfurt Green, Arsenical Green, or Arsenite of Copper.* By PROF. A. CHEVALLIER. (Pamphlet, 60 pp. 8vo., Paris, 1859.)

M. Chevallier has collected in this treatise most of the facts which demonstrate the dangers of arsenical greens, and the laws and regulations relative to their use. The following index of the paragraphs in which he divides his subject is sufficient to show the different circumstances in which arsenical colors have given rise to accidents: 1. Diseases of workmen who manufacture Schweinfurt green. 2. Sweetmeats colored with Schweinfurt green. 3. Colored paper serving as envelope for sweetmeats, etc. 4. Introduction of arsenite of copper in the preparation of alimentary substances. 5. On the dangers presented by paper-hangings. 6. Colors placed in the hands of infants. 7. Dresses, flowers, bracelets colored with Schweinfurt green. 8. Wafers colored with Schweinfurt green, necessity of forbidding the fabrication. 9. Danger of burning arsenical paper. 10. Dangers of arsenical colors, employed for painting toys, cages, &c.—(*Gazette Hebdomadaire*, June 29, 1860.)

V.—*On the Detection and Estimation of Phosphorus and Phosphorous Acid.*

By Prof. Scherer.

Within two years the author had occasion to gather much experience from a number of cases of poisoning of animals, and of two men; also from several attempts of poisoning by phosphorus. In one case, the phosphorus from thirty to forty matches, equivalent to about half a grain, proved fatal to a woman in forty-eight hours. He establishes the presence of phosphorus by Mitscherlich's method, with the modification of filling the apparatus with carbonic acid, generated from a few pieces of calcareous spar introduced into the acid liquid. No luminous vapors are obtained, but little of the phosphorus is oxidized, and if the tube dips into distilled water, this is phosphorescent when agitated in the dark, and its vapor blackens nitrate of silver.

To estimate the phosphorus, the last bottle containing the water is connected with another phial containing either neutral or slightly ammoniacal nitrate of silver, which absorbs all the phosphorous vapors that have not been retained by the water. Any globules of phosphorus which may have been obtained are fused together and weighed; the water is added and then evaporated; the chloride of silver is filtered off: the phosphoric acid, which is contained in the filtrate, is estimated in the usual manner, and calculated for phosphorus.

Very minute portions of phosphorus may be recognized, after first ascertaining the absence of sulphhydric acid, the vapors of which will turn sugar-of-lead paper black, and paper moistened with nitroprusside of sodium blue; papers moistened with nitrate of silver are suspended over the acid liquid, which is gently heated; in the presence of phosphorus, the silver will be reduced with a black color. The papers may now be macerated in chlorine water or aqua regia; the filtrate will, after evaporation, contain phosphoric acid, to be recognized as ammonio-phosphate of magnesia, or as phosphomolybdate of ammonia.

If phosphorus has been wholly or partly converted into phosphorous acid, the residue from the first distillation is heated in Mitscherlich's apparatus with sulphuric acid and pure zinc, until the hydrogen ceases to be contaminated with phosphuretted hydrogen, which is conducted into the silver solution, and estimated as indicated before.—(*Annale d. Chimie und Pharmacie*, cxii. 214–220, and *Am. Journal of Pharmacy*, September, 1860.)

VI.—*Poisoning by a Dress containing Arsenic.* By PROFESSOR BLASIUS.

A young lady, who went to a ball in a dress of light green tarlatan, was attacked, after having danced five sets, by a feeling of heaviness and lameness in the lower extremities, tightness of the chest, vertigo and headache, so as to be obliged to leave the ball. The symptoms gradually ameliorated, but the feeling of lameness in the lower extremities remained until the third day. A particular cause, as tight-lacing, etc., could not be discovered, and suspicion was directed to the green dress, which, on chemical examination, was proved to contain a large amount of arsenic and copper.

Professor Blasius believes that, from a dress which, according to the present fashion, is so extremely wide, enough dust containing arsenic may be raised around the dancing person that its inhalation may give rise to symptoms of arsenical poisoning.—(*Deutsche Klinik*, 1860, 5.)

PATHOLOGICAL ANATOMY.

BY JOHN H. PACKARD, M.D., OF PHILADELPHIA.

I.—*Embolie of the Middle Cerebral Artery.* By Prof. LEBERT, of the University of Breslau.

A carpenter, aged twenty-five, had for some months had palpitations of the heart, and painful dyspnœa on going up stairs. He had never had acute articular rheumatism. Six weeks previous to his application at the medical clinique of the university, he had passed bloody urine, and had had pain about the kidneys.

The day before his admission, having cut his finger and lost a good deal of blood, he suddenly fell down insensible; he did not regain his consciousness for two* hours, and was then speechless, as well as paralyzed on the right side. Sensation was unimpaired. At the time of his admission to the clinique, besides the symptoms mentioned, the action of the heart was very violent, its percussion-dullness covered a very wide extent, and a well-marked diastolic bruit was heard along the aorta. Urine scanty, dark yellow, containing much albumen and tube-casts.

About two weeks later, no material change having taken place in the mean while, symptoms of pneumonia in the upper part of the left lung manifested themselves. This condition seemed to be subsiding at the fifth day, and he became able to pronounce a few words distinctly, but on the next day (the twenty-first from the time of his loss of consciousness) he showed signs of exhaustion, sank, and died.

Autopsy, thirteen hours after death.—"There were fibrinous clots in the longitudinal and basilar sinuses; the surface of the brain was anæmic, and only here and there a few veins were gorged with blood. There was a considerable amount of subarachnoid fluid, as well as a good deal in the occipital fossæ. The left middle cerebral artery (*l'artère sylvienne*) was seen to be prominent, solid, as if filled with an artificial injection. Externally it presented the characters of arteritis secondary to its obstruction. The walls, especially the external coat, were thickened, indurated, of a yellowish-gray color, and the cellular tissue surrounding the artery shared in the inflammatory induration. The artery was completely obstructed, both in its horizontal and posterior branches. The coagulation was general in the two branches, but the starting-point in the horizontal branch was an adherent clot, decolorized and firm, about one-fifth of an inch in length and thickness; the more diffused coagulation had joined this clot. In the posterior division, starting from its origin, was found an embolie similar to that in the other branch, but of a yellow color, soft, puriform in the centre; from this there had also proceeded a more extended coagulation. It was everywhere very easy to distinguish the secondary coagulations from the primary embolic clots.

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* The time is stated in another place as *ten* hours.

"The middle cerebral artery, when cleared of clots, presented internally a healthy appearance; in particular there was a complete absence of atheromatous degeneration. The external cellular coat, however, had double its natural thickness, owing to a very considerable increase of corpuscles of connective tissue, arranged in groups, and offering the appearance chiefly of nuclei undergoing division and multiplication. There was consequently a secondary plastic inflammation of the walls of the artery. The other intra-cranial arteries were healthy.

"All around the affected artery the cerebral substance was softened, of a pulpy consistence, almost diffluent at places, of a pale-yellow color, but in other places of an almost cheesy appearance; in the peripheral portions the softening was of a pale-red color, with dark points due to little capillary ecchymoses, but there was nowhere any apoplectic extravasation. The softening extended from the surface of the base of the brain through the greater part of the optic thalamus, and through the external and posterior part of the corpus striatum of the left side. The softened part of the brain was found, on microscopic examination, to consist chiefly of granular matter, with numerous spherical granular bodies; very few fibres were recognizable, and these were in a state of fatty metamorphosis; there were none of the elements of blood found. All the rest of the brain was normal; there were no clots in the jugular veins."

In the left lung there was gray hepatization superiorly, and a shading off into red hepatization and the normal state below. The heart was large, and on one of the aortic valves there was an ulceration, "to which was adherent a cylindrical decolorized clot, tolerably firm, presenting a torn appearance at its free extremity, and which had" probably (?) "furnished the clots which obstructed the branches of the middle cerebral artery."

"The kidneys were enlarged; they were five inches long, about two and a half broad, and upwards of an inch thick; the surface was pale, lobulated, and granular; the cortical substance was pale; each kidney contained several old decolorized apoplectic clots, surrounded by a dark, retracted border; in addition, the left kidney contained in one of its calices a little branching yellow calculus."—(*Edinburgh Medical Journal* for August, 1860; from *Gazette Médicale de Paris.*)

II.—*Pneumothorax; Subsequent Death from Dissecting Aneurism of the Aorta.* By W. H. RANKING, M.D.

A tall, thin, delicate-looking young man, aged nineteen, was seized while in church with acute pain in the left side, and dyspnœa. On examination, after his removal to his home, the physical signs elicited were those of pneumothorax; but there was no clue to the cause or rationale of its occurrence. His chest returned to its normal state in about two months, and he resumed his business.

On the fifteenth of May last, (how long after the above attack we are not informed,) after having for several days suffered from occasional pains in the back and loins, and from faintness, he fell down in a fainting state while at his office. He recovered sufficiently to be taken home, undressed himself when there, and got into bed; but soon afterwards his friends, alarmed at hearing him shriek, went into the room and found him dying.

An autopsy was made twenty-four hours after death.—All the viscera were sound. Near the apex of the left lung several air-cells had been ruptured into one, and it seemed probable that the pneumothorax began at this point. The aorta, from about a quarter of an inch above its root, was affected with dissecting aneurism; the inner and middle coats were separated by a layer of blood, as far as the abdominal portion of the vessel. Somewhere,—the precise point could not be detected,—there had been an escape of blood into the surrounding tissues; the areolar tissue lying about the aorta was full of clotted blood as far as the iliac arteries. Blood in a fluid state, to the amount of two quarts, was found in the right pleura; a mass of semicoagulated blood was beneath the left parietal pleura, and blood had been extravasated between the folds of the mesentery, as well as into the pelvic areolar tissue. With the exception of a few specks of atheroma, the lining membrane of the aorta seemed healthy; a small slit, about three-eighths of an inch long, in the upper aspect of the arch, seemed to have been the starting-point of the aneurism.—(*British Medical Journal*, August 25th, 1860.)

III.—*Transposition of the Arteries.* Reported by Dr. J. F. MEIGS to the Pathological Society of Philadelphia.

A male child, born April 30, 1860, seemed healthy and nursed well until the twelfth day, although it did not cry vigorously. It then had what was supposed to be a convulsion, and when seen the next day by Dr. Ellwood Wilson, it was in a state of collapse, with blueness about the mouth and eyes.

Dr. Meigs saw the child on the twenty-seventh day, and noted the following conditions: "The child was small for its age; its lips and mouth were slightly, and but slightly cyanosed; elsewhere the complexion was good. Breathing short, high, and frequent. On uncovering the trunk of the body, it was easy to observe that the act of inspiration lifted up the sternum and other regions of the thorax, while the lateral regions of the chest failed to expand at all scarcely, and the base of the thorax actually became smaller, giving to the waist of the infant the appearance of being drawn in circularly by some internal force, or of being driven in by an exterior pressure. On percussion, the chest was less resonant than natural, on both sides, but especially on the right; the percussion-sound was positively dull on the right side, both before and behind. The vesicular murmur was puerile, except over the right side, where it was feeble.

"Cardiac sounds decidedly louder at right scapula than over left. The cardiac impulse of the left nipple was very indistinct, and the sounds there feeble but natural. The natural tic-tac could be heard. On pressing two fingers lightly to the left of the ensiform cartilage, close to the costal cartilages, a very distinct and quite vigorous impulse could be felt, one much more distinct than at the nipple. At this point a distinct blowing sound attended the systole of the heart. The action of the heart was regular, and the pulse frequent.

"The diagnosis made at the time was: atelectasis of both lungs, of right greater than of left; dilatation with hypertrophy of right ventricle; obstruction of the pulmonary artery; and open foramen ovale."

On the forty-fourth day the child died; its fingers and toes had become livid a day or two previous, and it had been drowsy, but had had no convulsions.

Autopsy.—Body small and very thin. Costal cartilages pushed forward, on the right side more than on the left; this gave the thorax a curiously deformed and flattened appearance laterally. Base of chest contracted in all its diameters, as though drawn or driven in.

The sternum being removed, the lungs were seen to be withdrawn, especially below, the heart being almost entirely exposed. The lungs were very small, and mostly paler than natural. The anterior halves of both lower lobes were firm, of a dark, purplish tint, and evidently contained no air; their posterior halves contained some air, but were firmer and less crepitating than normal. The upper lobes were healthy. By means of a blow-pipe the lungs were inflated to a very much larger size; they assumed a light, pinkish hue, and became light and elastic.

The heart was a very large one for so small a child. All its cavities were full, especially the right auricle, of soft, black coagula. The walls of the right ventricle were very thick; thicker than those of the left. The foramen ovale presented at its lower part an opening two or three lines in diameter. The orifices of the vena cava seemed smaller than usual.

The aorta and pulmonary artery were transposed. The aorta arose from the right ventricle in the usual position of the pulmonary artery; the pulmonary artery arose from the left ventricle, and, passing under the arch of the aorta, gave to the latter, just beyond the left subclavian, the ductus arteriosus, which was quite pervious and of considerable size. The valves of the heart were healthy, and not transposed.

Dr. Meigs remarks upon the comparative prominence here of the symptoms of atelectasis of the lungs, the cyanosis, although the heart was strikingly malformed, having been but slight. But for the pervious condition of the foramen ovale and the ductus arteriosus, the two circulations would have been entirely distinct, and extra-uterine life would have been impossible for more than a very few moments. Two views have been held as to the cause of cyanosis, some authors ascribing it to stasis of venous blood, and others to the admixture of venous and arterial blood. But in the case just mentioned there was very complete admixture, while the cyanosis was slight. There was a venous stasis, as shown by the systolic blowing sound, due to tricuspid regurgitation; by the powerful impulse of the right ventricle, as well as by its hypertrophied state; and by the dilatation of the right auricle with the open foramen ovale. Dr. Meigs regards the systemic capillaries as the seat of the obstruction in this case, it being well known that highly-carbonized blood circulates in them with difficulty.—(*American Journal of Medical Sciences*, October, 1860.)

IV.—*Cancerous Degeneration of Lung.* Reported by DR. EUGENE PEUGNET to the New York Pathological Society.

The patient, an Irish waiter, aged twenty-eight, unmarried, was admitted into the Bellevue Hospital, New York, January 18, 1860. For eight years he had had severe pain in the *right* side of the chest, causing dyspnœa. Six months before his admission he had noticed a small lump on the *left* side, about the level of the convexity of the eighth rib; it was the seat of intermittent and lancinating pain, and caused dyspnœa. He was cachectic and emaciated in appearance, but had no cough or expectoration. A large tumor was seated on the left side, extending from the fifth to the eighth rib, and measuring four inches antero-posteriorly; the veins on its surface were enlarged, and the intercostal spaces obliterated. Only the right half of the chest expanded in inspiration; no respiratory murmur in left lung. Cough came on about the twenty-second of February, and continued until his death, on the sixth of April. The left side of his face and his left arm were œdematous for a few days before he died.

"*Autopsy, eight hours after death.*—Rigor mortis well marked. Brain not examined. Right lung normal; slight serous effusion in right pleural cavity; heart dislocated to right; some slight evidences of pericarditis, but otherwise healthy. Left lung was found to be degenerated into a cancerous mass, there being no trace of lung tissue left. The diseased lung communicated with the external tumor by means of the fifth, sixth, and seventh intercostal spaces. The ribs were intact. The diaphragm was pushed downward by the diseased mass; the liver was displaced, and in a cirrhosed condition. The kidneys, spleen, pancreas, mesentery, stomach, and intestines were healthy. The external tumor presented a broken-down appearance. On microscopic examination of the specimen, it was found to contain a few cancer-cells, pus, and broken-down granular matter. The specimen taken from the lung contained a greater abundance of cancer-cells."—(*American Medical Times*, July 28, 1860.)

[Interesting as this case is, as above reported, it would have been much more so had the anatomical relations of the mass to the root of the lung, to the ribs, and to the intercostal vessels been detailed; the microscopic characters might also have been described, if not represented.]

V.—*Intestinal Concretions formed of Oat-hairs.* By A. ERNEST SANSOM, M.B., London.

H. Guy, aged twelve, was admitted into King's College Hospital, May 23d, 1860, having been suffering for four days with symptoms of colic; there was some ground for suspecting intussusception. Two days before his admission into the hospital an enema brought away some dark, feculent matter, followed by clotted blood. At the time of his admission he was evidently suffering from peritonitis, which carried him off on the twenty-seventh.

"*Post-mortem examination*—On incising the walls of the abdomen, a quantity of pus was seen lying between and upon the intestines. The visceral peritoneum was much congested, being, over the lower part of the small intestine, of a deep-purple color. The vermiform appendix was purplish black; it was perforated in four places, and was almost entirely in a gangrenous state; in it was impacted a concretion of about the size and form of a date-stone. The contents of the bowels had not escaped into the abdominal cavity.

"On microscopical and chemico-microscopical examination of the concretion, I found it to consist of phosphate of lime, carbonate of lime, and ammoniaco-magnesian phosphate, surrounding a nidus formed of interlacing vegetable hairs; evidently hairs of the oat."

It being ascertained that this boy had been very fond of a certain kind of very coarse plum-pudding, a specimen of the latter was procured and microscopically examined, when hairs were found in it having exactly the appearance of those observed in the concretion. The explanation of the case was therefore very easy.—(*British Medical Journal*, August 25, 1860.)

VI.—*Diseases of the Uterus.* Descriptions of two Specimens by JOHN CLELAND, M.D., Demonstrator of Anatomy in the University of Edinburgh.

1. *Rupture of the Uterus from Malignant Disease.*—In a female subject about fifty years of age, a wound was observed on the anterior wall of the uterus; it was three inches long, straight and symmetrical, and situated a little above the line between the uterus and bladder. "On more careful examination, it was found that the interior of the uterus was hollowed out into a large cavity by malignant disease. Not a vestige of the cervix was left; but the vagina, which was quite healthy, was continued at once, without any constriction, into this ulcerated cavern. The disease appeared to have quitted, in great measure, the posterior wall of the uterus; for most of that part was comparatively smooth, with a little shredded texture on its surface, but without alteration of the subjacent tissue. On the other hand, the anterior wall and fundus were covered by a growth of ragged villous appendages, which constituted the greater part of their thickness. The greater number of these villi were about a line long, and formed a thick carpet; but a number of others, branching, and about four times as long, were interspersed among them. Professor Simpson recognized this appearance as characteristic of malignant disease. The rupture into the peritoneum extended from side to side of the enlarged uterine cavity, and was about three-quarters of an inch above the termination of the vagina.

"But the disease had also made other perforations. It had distended the uterus so far that the ovaries were brought into contact with the uterine wall; and on the right side was a small perforation from the cavity of the uterus, opening into the peritoneum between the ovary and the Fallopian tube; while on the left side was a perforation as large as a sixpence beneath the ovary. Another small perforation was found, which passed from the back of the uterus into the recto-vesical fossa toward the right side, and was concealed by the way in which the rectum lay in relation to the uterus. More important than any of these, in the deeper part of the lower lip of the great rupture, was observed a lacerated opening into the bladder, so large that a shilling might have been made to pass through it. Notwithstanding all these lesions, there was no appearance of peritonitis."

2. *Disease of the Ovaries, with Peritoneo-rectal Fistula.*—"The subject in which the condition of parts about to be described occurred was the body of a woman between fifty and sixty years old. When the peritoneal cavity was opened, the uterus and ovaries were observed to be altered and enlarged by disease; and the forefinger, on being placed between the uterus and rectum, came in contact with a calcareous body lying toward the left side, quite bare of peritoneum, but concealed from sight by the position of the uterus and appendages. * * * * The uterus was swollen to more than twice its normal dimensions; its walls, on its being opened, presented a thickness varying from a quarter to half an inch; and the cavity was gorged with a thick, white substance, of almost cheesy consistence, which in its physical characteristics resembled tubercular deposit. No trace of the mucous membrane of the uterus remained; the boundaries of the uterine cavity were not defined; but the substance which filled the centre was infiltrated among the deeper fibres of the walls. The os uteri and vagina were healthy; and from the former depended a small quantity of tough, clear mucus.

"The Fallopian tubes were, at their origins, hypertrophied to a diameter of four lines, and looked like the cornua uteri of some lower animal. Their thickness was entirely due to development of fibres. On incisions being made into them, they were found to be quite solid, and no traces were found where the canals had been.

"On the right side of the pelvis, in contact with the uterus, was a large, hard tumor, about the size and of the form of a turkey's egg, with the broad end foremost; only it was somewhat curved upon itself, as if to adapt it to the shape of the pelvis, as its long axis lay horizontally. This tumor presented, over more than half its surface, a free aspect invested with peritoneum; and cul-de-sacs of the serous membrane, which could be followed out by cutting short folds that bound the tumor to its position, showed that it had originally presented a much larger free surface. On cutting into it, it was found to be enveloped by fibrous tissue; and the deeper part of this investment formed a separate layer, firm and tough like fibro-cartilage, but entirely fibrous in structure. Inside this tunic, intimately connected with it, was an imperfect calcareous shell, of almost bony consistency, extended in an irregular fashion over the contents of the tumor, but leaving large spaces uncovered. The fibrous tunic was thinned away in the places where the calcareous shell was thickest, as though the latter had been formed at the expense of the former. The interior was filled with a mass of substance having very much the appearance and somewhat the smell of half-dry putty. It crumbled down in irregular masses, and in powder, when disturbed. Nothing could be made of it by microscopic examination. A small portion shaken with ether was not visibly lessened in bulk. On the upper anterior part of the tumor, the remains of the ovary were discovered on dissection. It was joined to the uterus by a much hypertrophied ligament about half an inch long, whose fibres in great part spread out and entered into the formation of the wall of the tumor. The Fallopian tube of this side was hypertrophied, in the manner already described, for not more than half an inch of its extent; then became abruptly converted into a fibrous band about one and a half inch long, which was folded on itself, and hid from view between the tumor and uterus, terminating on the part of the tumor nearest the uterus.

"On the left side the Fallopian tube continued hypertrophied, and curved outward and backward for nearly two inches, forming the anterior margin, and incorporated in the formation of a cup, in which lay loose the body which had been felt in the peritoneal cavity before the removal of the parts from the pelvis. This body was about the size of a walnut. It consisted of a calcareous shell, corresponding to that of the tumor of the right side, and nearly perfect on the aspect which had lain uncovered, but very incomplete on the aspect which had occupied the base of the cup-like cavity. The contents were soft and slimy, with a disposition in part to cohere. The shell was structureless, as seen on examination of a portion under the microscope. It is impossible to say definitely how the Fallopian tube terminated on this side. The cup which contained the tumor was bounded behind by the rectum, and presented two different appearances in its floor. The outer half had a smooth surface broken up into convoluted elevations, like those of the brain in miniature. The inner and deepest part, lying between the rectum and posterior wall of the uterus, presented no such convolutions, and had a rough, shredded, and ulcerated appearance. On opening the rectum, it was found that a fistulous communication, which admitted a porcupine's quill, passed from the deepest ulcerated portion of the cup downward into the rectum, between two and three inches above the anus. This passage was at least a quarter of an inch long, bounded by strong fibrous walls; and its opening into the rectum was drawn up in such a way as to be overhung by a fold immediately above it—a circumstance calculated to protect it from the ingress of fecal matters."

Bi-Monthly Periscope.

THERAPEUTICS.

Disinfectants.—The use of a mixture of coal-tar and plaster of Paris for purposes of disinfection and for dressing wounds, as proposed by Corne and Demeaux (*Comptes Rendus*, xlix., 127; see this Journal, xxviii., 425,) has been recently reported upon in the French Academy by a committee—Chevreul, J. Cloquet, and Velpeau (*rapporteur*)—to which the subject was referred in July, 1859.

The great interest which this method, so favorably commented upon by the distinguished surgeon Velpeau, soon after its publication, excited among the medical men of France, gave rise to the publication of numerous other systems of disinfection, which, being submitted to the Academy for its approval, were also referred to the committee in question. The labors of its members have thus been materially increased, and their report swelled to the dimensions of a general treatise upon disinfectants, especially those applicable to wounds.

In numerous experiments made at the *Hôpital de la Charité*, the mixed coal-tar and plaster of Corne was employed, both in the state of powder and as a poultice made by mixing it with oil. When applied as a thick layer, three or four times a day, upon putrid, gangrenous, and sanious wounds, the powder destroyed their odor without giving rise to any special pain. Upon indolent sores, however, or upon recent burns, the contact of the powder produced considerable smarting upon some patients, though well borne by others. Wounds of the first class were often found to be cleaned as well as disinfected; while those of the second class generally acquired a dirty, pale, gray tint, their cicatrization being hindered.

The poultices were found to be more advantageous than the powder, in the treatment of cavernous wounds, purulent or fetid, and sinuous foci, open suppurating abscesses, anthracoidal suppurations, etc.

Applied directly to the sore, the poultices destroyed the putrid odors, allayed the inflammation without augmenting the pain, leaving beneath them a healthier pus, and the surfaces in better condition. In a word, the mixed coal-tar and plaster, when properly applied, disinfects wounds and putrid suppurations. As for the absorbent and detergent qualities which its inventors also claim for it, these are less clearly evident.

The powder absorbs better than the poultices; the latter, it is true, take up a portion of the morbid exudations, but unless the dressing is carefully renewed five or six times a day, pus will nevertheless collect beneath it. From this it follows that after having been somewhat cleansed the wound ceases, at the end of a few days, to clean itself, or to heal more rapidly than it would with the usual topical applications.

Upon ulcerated cancers, the mixture, either as powder or poultice, disinfects them partially, but neither dries up the suppuration nor alleviates the pain.

It is in the dissecting-room, upon organic matter in a state of putrefaction, that the mixed coal-tar and plaster is all-powerful. The most infectious masses, when imbued with the powder, or simply rolled about in it, lose at once their disagreeable odor. According to Velpeau, his autopsy room was as approachable toward the close of last summer as it had formerly been repulsive. It was freed from flies and other insects, as well as from putrid odors.

Although it would have been out of the province of the committee to experiment upon the application of this mixture in disinfecting filth upon a great scale, they have nevertheless proved that it can be advantageously used in hospitals, for deodorizing urine or fecal matters.

The following inconveniences, to which the use of the mixture in surgery would give rise, are enumerated:—

It not only soils the clothes of the patient, but hardens them and causes them to weigh more heavily upon or about the wound; it imparts to the bandages, with which the poultices are covered, a very tenacious, rusty or yellow color; it must be frequently renewed, and although it destroys putrid smells, it retains a bituminous odor by no means agreeable to many persons.

These inconveniences are of comparatively slight importance, it is true, and may possibly admit of being remedied.

Of the other disinfectants submitted to the committee, several were only modifications of that of Corne and Demeaux. Vegetable tar, as shown by Renault, may be substituted for coal-tar. A mixture composed of hydraulic lime and tar did not disinfect wounds to which it was applied, nor could it be supported by the patients. With regard to the assertions of some practitioners, that common earth, talc, flour, or other vegetable and mineral powders, even poudrette, when mixed with coal-tar, furnish a more convenient and less costly disinfectant than that prepared with plaster, the experiments of the committee have proved that while coal-tar, mixed with common earth, well dried, or with sand, is equally, or perhaps much more efficacious for disinfecting fecal matter as when mixed with plaster; that while comparative experiments made from this point of view upon sulphate of lime, clay, charcoal, linseed meal, and earth have resulted in favor of the latter, the same is by no means true in surgery. When applied to wounds or infectious suppurations, these different mixtures were only partially successful, having proved to be less efficacious than the mixed plaster and coal-tar. In like manner the proposal to use an emulsion of coal-tar and tincture of saponine has not been found advantageous in practice; most patients complained of it, their wounds exhibited scarcely anything satisfactory, while the disinfection was very imperfect. The mixture of plaster and coal-tar was substituted for it, upon the same wounds, with decided advantage.

Although the modifications of Corne and Demeaux's process have not been particularly felicitous thus far, they have nevertheless served to confirm the fact that in reality it is the coal-tar which acts the principal part as disinfectant in these various mixtures.

Among the numerous other substances proposed as disinfectants, or for dressing wounds, the following have not afforded satisfactory results:—

Chlorate of potash—mixed with clay or kaolin (for example, ten parts of chlorate to ninety parts of white clay or fine sand)—which was proposed as an absolute disinfectant, neither disinfected nor absorbed the pus of fetid wounds. The mixture would be in any case much more costly than coal-tar and plaster, and certainly less efficacious.

Whites of eggs—mixed with chalk and applied to wounds, previously oiled, succeed no better than simple cerate.

Powdered sugar—when employed in layers upon ulcers, forms crusts, beneath which the suppurations accumulate and hinder the process of healing.

Cherry-laurel water, glycerin, and cellulose.—According to Antier, glycerin mixed with equal parts of cherry-laurel water forms a valuable absorbent or disinfectant to be applied as a lotion or injection. This mixture, converted into pomade by mixing it with powdered almonds, was also proposed as a topical application for all kinds of wounds. But in the hands of the committee neither the liquor nor the pomade, by themselves or mixed with kaolin, produced any effect more marked than that of lead-cerate and other anti-putrid or detergent solutions already in use.

The members of another group of disinfectants are worthy, in various degrees, of consideration.

Among these charcoal appears in the front rank. Surgeons have long regarded it as one of the best antiseptics known. Confined between pieces of linen, according to the process of Malapert and Pichot, it is more readily applied than when used as a powder directly upon wounds; but the mixture of coal-tar and plaster, which disinfects still better and is more cleanly, is susceptible of a simpler and a more general application.

Coke of Boghead coal—in powder, as proposed by Moride, like carbon when employed comparatively with coal-tar and plaster, alternately upon the same patients, proved to be less efficacious, less convenient, and more disagreeable than the latter.

Mixed plaster and charcoal—proposed by Herpin, of Metz, irritates the wounds, disinfects badly, and soils everything it touches.

Carbonic acid—proposed by the same author, appears to the committee to be too difficult of application in practice, though theoretically founded upon important analogies.

Bituminous water of Visos—proposed by Manne, and the mud of rivers used as a poultice by Desmartis, do not appear to be susceptible of being substituted for the mixture of Corne and Demeaux.

The following substances have long ago acquired a place, each in its own way, in the class of disinfectants.

Tincture of iodine has been employed as an antiseptic by hospital surgeons since 1823. By modifying the surfaces to which it is applied, it usually improves the appearance of the pus, lessens its acridity, and is, to a certain extent, antagonistic to putrid infections. It disinfects, however, only incompletely, causes severe pain when applied to open wounds, and would be expensive if used on a large scale; finally, the odor of iodine is neither agreeable nor unattended by inconveniences.

Perchloride of iron has been used for some twelve years in hospitals as an antiseptic and as a means of modifying certain wounds and putrid or sanguineous foci. Without diffusing the disagreeable odor of tincture of iodine, it has, like the latter, the fault of disinfecting badly, of causing much pain, and of acting violently upon the diseased tissues, besides injuring the cloths which are soaked in it even more than is the case with the coal-tar and plaster.

Both iodine and the salt of iron just mentioned are in fact agents of another order; they have rendered, and do still render important services. They are certainly well worth preserving, but should not be compared with the mixture of coal-tar and plaster.

Nitrate of lead, *creosote*, and other substances which have been proposed at one time or another, have not realized the expectations of their inventors; their price has been too great, their employment required too much care, or their action has not been sufficiently certain that they could be advantageously used in practice. There is, nevertheless, one of these which deserves special mention, viz., *chlorine*. Ever since Guyton Morveau demonstrated the true action of muriatic acid upon putrefying animal matters, the efficacy of chlorine has been tested in almost innumerable ways. Solutions of chlorine, of "chloride of soda," and of "chloride of lime," have rendered signal services to medicine and in the cause of public health, especially since Labarraque, some thirty years since, indicated an improved method of employing them. But the odor of chlorine, disagreeable in itself, is neither easily borne nor devoid of inconveniences. Wounds, moreover, hardly accommodate themselves to it any better than the sense of smell, whenever somewhat large doses of it are required.

Chlorinated sponge.—The idea of applying sponges saturated with chlorinated solutions, directly upon purulent or gangrenous wounds, as suggested by Hervieux, appears to be excellent for certain cases. Such sponges, renewed several times per day, absorb the pus gradually as it forms better than anything else, and disinfect the wound very well. Unfortunately, chlorine rapidly alters or destroys the sponges and soon causes undue irritation. While this method, therefore, is an excellent one for cleaning certain gangrenous and sinuous wounds, it is, nevertheless, inferior in most instances to the mixture of coal-tar and plaster.

Subnitrate of bismuth—suggested by Frémy as an absorbent and disinfectant, was applied to a large number of wounds. Upon large cavernous cancers it disinfected somewhat better than Peruvian bark, charcoal, or chlorate of potash, but less than the coal-tar and plaster. By its use, however, several bad-looking wounds were cleansed quite rapidly. Since it causes no pain or irritation, and since it neither soils the skin nor the clothes, the subnitrate of bismuth is preferable to a multitude of other antiseptic powders; but it is useful rather as a solidifier (*incarnatif*) or dryer, than as an absorbent or disinfectant.

In their *résumé* the committee affirm:—

I. That coal-tar mixed with plaster, according to the formula of Corne, (see this Journal, xxviii., 426,) can disinfect putrefying organic matters. Mixed with alvine dejections this powder destroys their odor and leads one to hope that by its aid profound reforms in the present system of maintaining and clearing out cess-pools, etc., may some day be brought about. For this purpose, ordinary earth, coal-ashes, or sand may be substituted for the plaster, as Cabanes prefers, being at least equally efficacious.

II. In therapeutics the coal-tar and plaster has fulfilled only a part of its promises. As a disinfectant in the dissecting-room, upon the folds of bandages—everywhere where there is infectious matter, its qualities are incontestable. This is also true as regards putrid or gangrenous foci, fetid suppurations, sanious wounds, ichorous putrilagenous cavities, hospital gangrene, etc.; but upon acute and exposed wounds, or upon ordinary wounds or ulcers, other topical applications are preferable to it.

III. Used with lint upon cloths, with pomades or cerate, it has afforded no useful result, and nothing has occurred to prove that when administered internally it has produced the least benefit.

IV. As an absorbent it leaves much to be desired, although it is not entirely devoid of action. When applied as a poultice, in particular, it absorbs very incompletely. For that matter the mixtures of coal-tar with earth or with other powders absorb still less than the mixture of Corne and Demeaux, and are scarcely at all applicable in therapeutics. In this connection it must not be forgotten that the morbid liquids, and particularly pus, are very different from water. A substance like plaster, for example, which absorbs water strongly, might be incapable of absorbing pus. It is nevertheless true that, as an absorbent, the mixture of coal-tar and plaster, either as powder or as poultice, is of some use upon fetid and putrid wounds or suppurations.

V. Cellulose, glycerin, and cherry-laurel water; chlorate of potash mixed with talc, clay, marl, or kaolin, are neither sufficiently efficacious, nor in application are they convenient enough to be retained in practice.

VI. The mixture of saponine and coal-tar does not appear to be preferable for dressing wounds to many other liquids already known--tincture of aloes for example. The same may be said of the mixed coal-tar and charcoal of Herpin; nor does it seem as if carbonic acid should be used, unless some improved method of applying it can be devised.

VII. The Boghead residue would be useful only in lack of coal-tar and plaster; while charcoal in porous envelopes does not mould itself to cavernous and sinuous wounds with sufficient readiness to come into general practice.

VIII. From its low price, and by its action, at once mild, absorbent, and disinfectant, as well as by its drying properties, the subnitrate of bismuth will render important services in default of the mixture of coal-tar and plaster. It is even preferable to this when the wounds are accompanied or surrounded with heat or irritation.

IX. Tincture of iodine and perchloride of iron act rather by modifying the surfaces of wounds and of purulent foci, than as absorbents or disinfectants. They have their special applications in surgery, but agents of this sort are not comparable with the mixed coal-tar and plaster.

X. Sponges soaked in chlorinated water can also render good service upon pale, burrowing sores and upon gangrenous foci.

We have occupied ourselves, say the committee, only with the practical or experimental side of the question. A discussion of its theoretical or chemical bearings would have carried us too far. Moreover, since the authors of the different communications which have been submitted to us have themselves neglected this for the most part, it has seemed to us useless to treat of it at present; whether it be the phenic acid or rosolic, or brunolic acid, or the anilin, picolin, etc., of the coal-tar, which disinfects, is in reality of but little importance. Science will inform us of this some day no doubt; for the moment we have merely to ascertain whether or no the various disinfectants which are brought to us do really disinfect.

After citing the labors of various persons who have proposed methods of disinfection, the committee go on to say: "M. Corne, and the authors indicated above, occupied themselves only with the disinfection and the solidification of animal matter, having in view the preparation of manures. * * * * It is M. Demeaux who appears first to have had the thought of applying to fetid wounds, in surgical practice, the powder invented, or adopted and extolled, by his neighbor. In addition, it is evident that here, as is the case with so many other complex facts with which science is enriched, there is, so to say, neither invention nor priority for any one. The subject has been worked upon for more than a century—a multitude of savans having competed with each other in studying it. Little by little the evolution of the discovery has been effected. M. Corne disengaged it from its gangue a little better than his predecessors, and Demeaux, knowing, perhaps, that from time immemorial sailors and the inhabitants of certain southern countries often dress their wounds with tar; that tar-water and pomades of tar are frequently employed in medicine, has extended its applications to therapeutics."

"Many other efforts are still necessary. In point of fact, the results thus far obtained are merely rough outlines—only first trials. So long as the world at large is not in possession of a simple, easy, and economical method, accessible to every one, which shall be capable of disinfecting immediately, and without inconvenience on the large or small scale, dejections and filth of all kinds, in dwellings as well as in privies or slaughter-houses, in dissecting-rooms and the like, as well as in the sick-room, upon wounds, improvements will still be wanted; there will yet be room for new attempts. While recording those of to-day and those of yesterday upon the road already traversed, let us be careful not to diminish the ardor of the laborers in the future, who will finally endow civilization with a complete and general disinfectant."

Finally, certain indispensable precautions must be followed, in order to obtain from the process of Corne and Demeaux its proper effect. It is evident, from having neglected some of these precautions, that different experimenters have been led to believe that the method is useless. Fine moulding plaster, and not the common article, should be employed. The coal-tar, which is mixed with it in the proportion of two to four parts to a hundred, by triturating or grinding, ought to impart to it a gray tint, without destroying its dry, pulverulent condition. Objects to be disinfected should be rolled in this powder until each point upon their surfaces has been brought in contact with it. Gangrenous or putrid sores should be covered with thick layers of it, by handfuls, several times per day. If one is treating pus, blood, dejections, or the like, enough of the powder should be added to form a paste of the mass, taking care to replace the first layer of powder by another as soon as it no longer absorbs any more. Mixed with oil to the consistence of a thick pap, it forms poultices of convenient application, if they are made thick and broad.

Within the limits which have been indicated the mixture of coal-tar and plaster is a good disinfectant, and may be recommended for use in domestic economy as well as in hospitals. "What we have ourselves seen leaves no uncertainty of the reality of this property, nor of the possibility of its application." * * * * * It remains only to draw from it reasonable, practical consequences, either taking the fact as it is, or by modifying and perfecting it.—(*Comptes Rendus*, l., 279; *Amer. Jour. of Science and Arts*, July, 1860.)

Editors' Table.

Ancient Medicine.—Of the two great divisions of medical inquirers, one is continually engaged in opening out new paths and making observations and discoveries; the other is retrospective in its labors, and gathers up and arranges the materials of olden time, which had been neglected or forgotten, and shows often their resemblance to, and harmony if not identity with, the more recent delvings of modern science. We should be loth to be compelled to ally ourselves to one of these divisions in such a way as to imply abandonment of the other; although many, we are afraid they constitute the majority of the profession, unite themselves ostensibly with the first or progressive party, and do not think it worth while even to look over their shoulders at the road that has been traveled by their predecessors. Neglect of this kind is not without its penalty. A clear knowledge of the country that has been gone over gives greater confidence in making explorations in advance, and prevents the recurrence of many vexatious mistakes—a wandering in by-paths, the like of which had been shown by former experience to be misleading and unproductive.

It must be confessed, however, that retrospective lore is too frequently brought before us in its driest and most forbidding aspects. A tangled thread of speculative argument runs through the whole period of medical history, and it is not unraveled by polyglot criticism, straining and pulling in different directions. Men preferred to wander through a dark labyrinth, in the vague hope of finding concealed treasure, in place of gathering fruits and succulent roots, the products of the upper earth, but scattered abroad without rule or method. Ancient medicine abounds in suggestions full of applicable philosophy and plain precepts, enforced by pertinent and striking facts, easily separable from the superstitions, fictions, and theories with which they are often associated. But even the superstitions and fictions which belong to the first or mythical period of ancient medicine, evinced, on the part of those who gave them shape and currency, a large comprehension of the aids and alliances of the healing art. Apollo, the god of music, he of the tuneful lyre and vengeful bow, was also the god of medicine. Chiron the Centaur, the son of Saturn, and the first surgeon if not the first physician, was the preceptor of Æsculapius, Hercules, Theseus, Jason, and other heroes of early Greek traditions. He taught music as well as medicine, and astronomy in addition to philosophy. Æsculapius, among his curative means, had recourse to songs and melody, and amusing exhibitions, for the purpose of allaying the excitement and disorders produced by indulgence in strong passions. Hercules, the mere type of brute force in the conceptions of most readers, was meant to show also the union of mind with muscle, as in two of his twelve labors, viz., destroying the many-headed hydra of Lerna, and in cleansing the Augean stables. In both of these feats he showed himself to be the pupil of Chiron, and the practiced sanitarian: in the first case by draining the marshes and exposing them to the sun, and thus removing the causes of disease, and destroying the so-called hydra; in the second, by turning the River Peneus or Alpheus through the stable so as to wash away its accumulated filth. Poetical fictions these, but withal pleasant and instructive.

Hygeia, the daughter of Æsculapius, and goddess of health, was not worshiped in crowded cities. Her temples were amid groves and streams, and they crowned heights from which the eye could survey the varied landscape around. The inmates and visitors to the temples of Æsculapius or temples of Health, Asclepias, thus favorably situated, enjoyed all the advantages of pure air and the superadded appliances of baths, frictions, gymnastic exercises, and riding on horseback. In the instance of the temple of Epidaurus, their senses were agreeably impressed and their minds diverted by music, recitations, and dramatic performances in a theatre in the vicinity. We may smile at the mummeries and jugglery practiced on their patients, especially in the quiet and silence of the night, in the chambers of the temple, on the pretence of placing them under divine influence. But we cannot deny that the sights and sounds created at these times, following also imposing religious ceremonies during the day, could not fail to affect powerfully the imagination, and, by exciting faith and hope, produce a strong effect on all the functional disorders of the nervous system. Could the science of the present day, calling in religion to its aid, suggest a better preparation for subsequent treatment than ablutions, abstinence, and prayers enjoined on the sick previously to their being received into the temple? Does any sanitarium, fashionable watering-place, or hydropathic establishment present such a bill of fare for the choice and use of the invalid—such a union of applied physiology and psychology—which shall take cognizance of man's mixed corporeal and mental nature?

The doctrines of Hippocrates on the elements and humors, and on certain crises explained and commented on by Galen, were for many centuries reverently received in the schools in apparent forgetfulness of his admirable treatises on Air, Water, and Places, and on Diet. His Aphorisms also were long regarded as the capstone of the scientific edifice of medicine, the most sublime effort of medical genius. It was exacted by the faculty of Paris until a short period, as an indispensable condition for the success of the candidates for the doctorate, that they should insert in their theses a certain number of these Hippocratic aphorisms. The far more valuable treatises by the Father of Medicine on Prognostics and on Epidemics, containing direct and available lessons, failed to attract any such deferential regard. The matters described in these treatises and in the ones first named should induce us to look back on ancient medicine as available for much positive instruction, divested of the mystic, the obscure, and the erroneous, which, in the minds of many, alone characterize it.

The abstruse speculations of Galen, his doctrine of the four humors, and of eight leading constitutions, his explanations of the power of medicines depending on their general qualities of heat and cold, moisture and dryness, were taught and "implicitly followed by all the physicians of Greece who came after Galen, and indeed by all the physicians of Asia, Africa, and Europe, for at least fifteen hundred years after his time."

His *Ars Medica*, as we had occasion to relate in the first volume of this Journal, was, for centuries, the text-book on which the students of Salernum and of other schools of the middle ages were examined, before receiving permission to practice. If the veneration for antiquity has retarded the progress of medicine in times preceding our own, it does not follow that an entire neglect of it is to be encouraged now. We may deprecate the erroneous philosophy and faulty discrimination which led men's minds to dwell on obscure hypotheses and wordy speculations, to the exclusion of that which was clear, plain, and practical, while we, with better lights and more discernment, can make better selections from the very same stores of antiquity. We do not turn away from Milton and refuse to read, and study too, his "Paradise Lost," because his "Paradise Regained" was a poem of inferior merit. Of the five hundred treatises by Galen, some of them, it is true, not larger than small pamphlets, the greater number of those which are preserved may be cast to one side; but there will still remain for our edification his admirable books on Semeiology and Hygiene. In the latter, especially, he was not only more definite, full, and perspicuous, than any writer who preceded him, but in some points remains superior to any of his successors. The prominence which he gave to Hygiene, as displayed in his treatises on the Preservation of Health, and *De Sanitate Tuendâ*, and on the "Properties of Aliments," is consistent with his definition of medicine, viz.: the preservation of health and the cure of disease. The first part of this definition was soon overlooked by Galen's successors; and it is only just now beginning to arrest the attention of medical men, who, for the most part, think that their duty is discharged when they pay the last visit and have written the last prescription for their convalescent patients.

The great teacher of Pergamos has the merit of originality in treating the following four subjects, viz: 1. On infancy; 2. On old age; 3. On temperaments; 4. On those who are not masters of their time. His inculcations on these themes have still the freshness of novelty if we may judge from the general neglect with which they continue to be viewed. Infants, he says, should be fed with their mothers' milk in preference to that of a stranger. This ought to be their sole nourishment until they get their first teeth. Attention ought to be paid to whatever causes them to cry or gives rise to much restlessness. Every morning, and on an empty stomach, they should be bathed in tepid water, and afterwards well dried and rubbed. He reprobates the practice of the people of the North, who plunge their children, at the moment of their birth, into cold water. Making one of those flings of which Galen was too fond, he says he has no desire to write for those Germans and those Barbarians any more than for bears and lions. He lays much stress on the great care that ought to be taken of nurses, in regard to their regimen, exercise, sleep, etc., if it be desired that they should give good milk. Nothing, he assures us, is more necessary to young children than that they should breathe a pure air, and hence they ought not to be kept in close rooms. How little consonant with this advice is the practice of many mothers, even in the present physiological age of Liebig, Dumas, and others, in allowing their infants to sleep in their arms a good part of the night, and so covered up as to allow of the least possible access of air—barely enough to prevent suffocation, while the bedroom itself is nearly air-tight, at any rate destitute of all appropriate means of ventilation. Galen's directions extend to the removal of children from marshy places, and the exhalations from great cities.

Among the hygienic precepts to old persons, we may select the following: To excite the functions of the skin by frictions and the flesh-brush—bathing was, in that age, a matter of course; to take, without fail, moderate exercise, enough to keep up the strength; but to avoid carefully the carrying it to the extent of producing fatigue, which exhausts and emaciates; to use fluid and invigorating food, and to drink generous wine, which shall be at the same time diuretic; and be very attentive to keeping the bowels open. The wine of that period, it will be remembered, was really the product of fermentation of the juice of the grape, without the foreign addition of alcohol, which the genius of evil had not yet shown man how to procure by distillation. Galen attached great importance to a knowledge of the temperaments; deeming it to be necessary for a proper adaptation of hygienic agents, and, more particularly, of the modifications of regimen to individual cases. He enlarges on this topic, on which we cannot follow him without being led into details and theoretical disquisitions for which we have no room. We may say, however, that Galen's divisions of the temperaments have been, in the main, retained even to the present time.

As relates to persons in public life, men of letters and others whose accumulated engagements prevent their disposing of themselves and of their time as they might wish, Galen lays down for their guidance the three following rules: First, whenever they are tasked to any unusual effort, in the way of mental labor and study, they must be more than usually temperate; secondly, they are to use the simplest diet, and that which is most easy of digestion; and, finally, they must give some time, however short, to daily exercise, or, if that is impossible, to lose a little blood to prevent plethora, and also to take from time to time a mild purgative, to cleanse the stomach and bowels from impurities which accumulate in these passages. Failing to attend to these rules, persons thus situated can hardly fail to escape serious attacks of disease.

In commenting on his hygienic directions for those whose minds are kept on the stretch in active intellectual pursuits, and, it might be added, in commercial and other business walks, we must remember that Galen was no mere literary recluse or ascetic, intent on mortifying the appetites from religious considerations, or in accordance with the self-denials of stoical philosophy. He was, on the contrary, a man of the world, a great traveler, the physician of four Roman emperors, and, withal, himself an ardent and industrious student, who knew from personal experience the conditions most favorable for success in intellectual exercises. Up to the twenty-eighth year of his life, he scarcely passed one of them without being afflicted with some disorder; but, having studied his own constitution and fixed on the methods of improving it, he reached, after a time, an excellent state of health and old age—the effects of preserving a strict regimen both in diet and exercise. He practiced in his own person a rule, which he was the first to introduce as a part of hygiene, viz., the government of the passions.

Hippocrates and Galen are so commonly spoken of together, and the latter is so noted as the most extensive commentator and warmest eulogist of the Coan sage, that we are apt to forget the long period which separates these eminent Greek authors, and the fact of the Latin Celsus having lived in earlier times than Galen. Celsus was called the Latin Hippocrates, of whose opinions and practice he presents the best summary extant, and on this account alone, apart from his own merits as an eclectic writer, he would furnish ample inducements for our looking back, with respect, on ancient medicine. His counsels for the preservation of the health of those who already enjoy this blessing, and for the course to be pursued by the dyspeptic, in the first and second chapters of the first of the eight books of his celebrated work *de Re Medica*, are worthy of careful and continued perusal; they contain, in brief, nearly all that is now-a days expanded into volumes. The remarks of Celsus on the pulse are discriminating and practical. In them, repeating the language of a pleasant and learned historian of medicine, "there is much to commend, much to remember, and much to adopt." They are in strong contrast with the long, elaborate, and somewhat fanciful disquisitions on the pulse in Galen's several tracts, seventeen in number, on Sphygmology.

MEDICAL MISSIONARY SOCIETY'S HOSPITAL AT CANTON.—We have received from our friend and collaborator, Dr. J. G. Kerr, a report of this hospital for the year 1859, and are happy to congratulate him upon the success which has attended his efforts as a medical missionary in the Celestial Empire. The institution is situated in the southern suburbs, opposite the middle of the walled city, and has recently received an appropriation of sixteen hundred dollars for enlarging its accommodations.

During 1859, thirteen thousand one hundred and eighty-six patients were prescribed for, and fifty-nine in-patients admitted. About seventy-five operations were performed, including seven for cataract, eleven for the removal of tumors, two for hydrocele, six for carious bone, three for urinary calculus, forty for entropion, two for pterygium, one for perineal section, and one for neuralgia of the inferior maxillary nerve. The subjects of the calculi, as well as of the other important operations, all recovered.

The most common diseases treated by Dr. Kerr were those of the eye, bronchitis, dropsy, intermittent fever, rheumatism, scrofula, ulcers, and affections of the skin. Large quantities of quinine have been introduced into the market and sold to the Chinese, who greatly appreciate its remedial value; and a number of steel trusses have been distributed, at cost price, to such as could afford to pay for them. The supply was not, however, equal to the demand, as hernia is a very common affection. A vaccine department has been established, and on this subject Dr. Kerr makes the following remarks:—

> "Vaccination was introduced among the Chinese in this city by Dr. Pearson, about the year 1805. Owing to the per-

severing efforts of this gentleman, continued through many years, the inestimable blessings of this preventative are fully known to the Chinese, and his name is worthy of little less honor than that of the immortal Jenner, who first made it known to the world. Small-pox is almost an annual epidemic in China, and without the aid of government or any public institutions it is not strange that vaccination is neglected by multitudes in so vast a population. Those who practice vaccination are not able to preserve the virus, and they depend for fresh supplies brought from England. It was with the design of supplying these deficiencies that the department was established, and it is hoped that while gratuitous vaccination is offered to the poor, the hospital will be a source from which to supply virus at all times to all parts of the south of China. A tract on the subject has been prepared and printed, in which directions are given for preserving the scab and vaccinating from it."

THE CASE OF SIR BENJAMIN BRODIE.—The medical profession, both in England and abroad, have recently evinced the liveliest interest in the distressing case of this distinguished gentleman, who, at the advanced age of eighty-four, has undergone the operation of iridectomy for impaired vision in both eyes. About last December his sight began to fail, and on the twelfth of July of this year Mr. Bowman removed a portion of each iris for supposed glaucoma. There seems to have been an error in the diagnosis, Mr. Hodgson and Mr. White Cooper regarding the disease as senile cataract, and did not recommend the operation of iridectomy. The left eye is very little improved, if at all, and in the right vision is completely lost; but as there is now a cataract very evident in the latter, sight may be restored by extraction of the lens, provided the eye is not glaucomatous. The high position of the unfortunate and much respected sufferer renders the case especially interesting in relation to the operation of iridectomy, one of equivocal value, which is now being so extensively tried.

HONORS TO MEDICAL MEN.— Drs. Ricord and Jules Cloquet have recently been promoted to the rank of Commanders of the Legion of Honor, a body which, in the time of the first Napoleon, numbered but a few hundred. At the present day the members of the Legion amount to many thousands.

NEW MEDICAL JOURNALS.—We have received the first two numbers of the *Columbus Review of Medicine and Surgery*, a bi-monthly journal of ninety-six pages, edited by Dr. W. L. McMillen. This is the second medical periodical existing in Columbus, and from the character of its contents we can safely predict that it will become one of the leading journals of the West. We congratulate the editor on the auspicious beginning of his enterprise, and trust that future numbers will sustain the good opinion we have formed of it.

The *London Medical Review* is the title of another monthly candidate for favor, the first number of which was issued in July by the enterprising and experienced publisher, Mr. Baillière. As is usual with foreign periodicals, the name of the editor does not appear on its cover, but from the names of the contributors to its pages, it is easy to perceive that it is under the management of able men. It gives us pleasure to place it on our exchange list.

YEAR BOOK OF AMERICAN CONTRIBUTIONS TO MEDICAL SCIENCE AND LITERATURE.—Dr. O. C. Gibbs, of Frewsburg, Chautauque County, New York, has issued a circular, stating that if he receives the necessary encouragement he will prepare a yearly volume with the above title, containing from five hundred to eight hundred pages, the first volume to appear early in 1861. The design of the work is to furnish a complete and classified summary of, and index to, all the important contributions found in the medical journals of this country, as well as in the published proceedings of the National and the various State Medical Societies for the preceding year. It will also contain reviews of all medical works of American authorship, abstracting all novelties in practice or opinion contained in them; and a copious index will complete the work. As Dr. Gibbs does not intend to publish the volume at a pecuniary loss, he requests that subscribers will send in their names at once, the payment of three dollars to be made on its appearance. He also requests that publishers of journals and medical works, authors, and presidents of societies, will be kind enough to send him copies of their publications, which he will reciprocate by an exchange.

DICTIONARY FOR THE BLIND.—A Dictionary of the English language for the use of the Blind has just been published in this city, in raised letters, in three folio volumes, of two hundred pages each. The author is Professor Dunglison, in conjunction with Mr. William Chapin, the one the Chairman of the Committee of Instruction, the other the Principal of the Pennsylvania Institution for the Instruction of the Blind, one of those noble establishments which abound in Philadelphia for the amelioration of the mental and moral condition of the races. The work is based upon the comprehensive Dictionary of Worcester, and is the first book of the kind ever published. Some estimate of the labors of Professor Dunglison may be formed when it is stated that he bestowed upon the work not less than four years. Much as our illustrious countryman has written, posterity will not regard the Dictionary for the use of the Blind as among the least valuable of his publications.

CHANGES AND APPOINTMENTS IN MEDICAL SCHOOLS.—The Medical Department of the *University of Michigan* has sustained a loss in the death of Dr. Samuel Denton, Professor of Theory and Practice, and of Pathology. The chair thus rendered vacant has been filled by the election of Dr. A. B. Palmer, transferred from the professorship of Materia Medica, Therapeutics, and Diseases of Women and Children, in the same school. The last-mentioned chair remains still vacant, and its duties have been distributed among the members of the faculty. The new Professor of Practice and Pathology has but recently returned from a tour in Europe, and is well and favorably known to his brethren throughout the United States by his editorship of one of the most useful journals in the country.

New York Medical College.—This institution has been reorganized, Professors Carnochan and Doremus being the only two of the old faculty connected with it. The other professorships are constituted as follows: D. M. Reese, M.D., Medicine and Medical Jurisprudence; B. J. Raphael, M.D., Principles of Surgery and Surgical Pathology; A. K. Gardner, M.D., Clinical Midwifery and Diseases of Women; J. D. Bronson, M.D., Anatomy; C. A. Budd, M.D., Theory and Practice of Midwifery; A. Jacobi, M.D., Infantile Pathology and Therapeutics; B. L. Budd, M.D., Toxicology; R. K. Browne, Physiology. The chairs of Materia Medica and Clinical Medicine still remain vacant.

Shelby Medical College.—Professor Maddin has been transferred from the chair of Anatomy to that of Surgery, vacated by Dr. May; and Dr. D. B. Cliffe has been appointed to the professorship of Anatomy. Dr. Haskins is succeeded in the chair of Practice of Physic by Dr. J. J. Abernathy.

Lind University.—Dr. Deville has vacated the chair of Anatomy, which has been filled by the appointment of Dr. J. Hollister; and Dr. A. L McArthur has been created Professor of Materia Medica and Therapeutics.

University of Buffalo.—Dr. E. M. Moore succeeds Professor Hamilton in the chair of Surgery, and Dr. Wm. Mason has been elected to that of Physiology.

Dr. G. M. B. Maughs has been called to the chair of Physiology and Chemistry in the Medical Department of the *Missouri State University.*

Dr. J. T. Maxwell has accepted the Professorship of Obstetrics in the *Oglethorpe Medical College*, and Dr. J. H. Tate fills the same position in the *Cincinnati College of Medicine and Surgery.*

Professor Lawson has received the appointment to the chair of Clinical Medicine in the Medical Department of the *University of Louisiana.*

BOLYSTON MEDICAL PRIZE QUESTIONS.—At a meeting of the Bolyston Medical Committee, held on the 1st of August, 1860, the annual prizes of ninety dollars each, or a gold medal of the same value, were awarded to Dr. John Bell, of New York, for the best essay on the question: "How far does the Microscope assist us in Surgical Diagnosis?"; and to Dr. David W. Cheever, of Boston, for his dissertation on "The Value and Fallacy of Statistics in the Observation of Disease."

For 1861 the following questions are proposed: 1. Excision of Joints. 2. Diagnosis and Treatment of Chronic Pleurisy. Essays on these subjects must be sent to Dr. Edward Reynolds, on or before the first Wednesday in April, 1861.

The following questions are proposed for 1862: 1. How far does the Microscope assist us in Medical Diagnosis? 2. On Nausea and Vomiting as Symptoms; under what circumstances do they occur, and what indications do they afford as to the seat and character of Disease? The dissertations are to be sent to the same direction, and at the same period above stated, 1862. The premium for the best dissertation on either of these subjects will be sixty dollars, or a medal of that value.

FISKE FUND PRIZE ESSAYS.—The Trustees of the Fiske Fund announced at the meeting of the Rhode Island Medical Society, held July eleventh of this year, that premiums of one hundred dollars each had been awarded to Dr. W. W. Morland, of Boston, for a dissertation on Uræmia and its Morbid Effects; to Dr. D. W. Slade, of Boston, for his essay on Diphtheria.

The following are the subjects for the prizes for 1861: 1. Aneurism: its Varieties and their Appropriate Treatment. 2. Ozone: its Relations to Health and Disease. Dissertations on these subjects, marked by a motto, and accompanied by a sealed packet containing the same motto and the writer's name and residence, should be sent to Dr. S. A. Arnold, Providence, Rhode Island, on or before the 1st of May, 1861.

CLINICAL INSTRUCTION AT THE PHILADELPHIA HOSPITAL.—By the liberality of the Board of Guardians, the wards of this extensive charity have been thrown open to students, for the purpose of clinical instruction, free of charge. Clinical lectures have already been commenced, Drs. Ludlow, Agnew, and Penrose being on duty. We advise all students to avail themselves of the varied and extended opportunities now gratuitously offered to them. The lectures are delivered in the amphitheatre every Wednesday and Saturday, beginning at ten o'clock A.M.

MUSEUM OF THE PHILADELPHIA HOSPITAL.—After a conference with the Medical Board, the Board of Guardians adopted a resolution establishing a museum for the preservation of pathological and other specimens, and a considerable fund has already been appropriated for obtaining fixtures and materials for the basis of a cabinet. A yearly endowment will be granted, and Dr. Agnew has been appointed curator of the museum.

PENNSYLVANIA INSTITUTION FOR THE INSTRUCTION OF THE BLIND.—Dr. Richard J. Dunglison and Dr. S. Weir Mitchell have been appointed physicians to this institution.

APPOINTMENTS TO INSANE HOSPITALS.—Dr. J. P. Clement has been appointed Superintendent of the State Hospital for the Insane, at Madison, Wisconsin, and Dr. R. J. Patterson has been called to fill the same position in the State Hospital for the Insane, at Mount Pleasant, Iowa.

NEW SYDENHAM SOCIETY'S PUBLICATIONS.—In the July Number of the REVIEW, we mentioned that the works already issued by this society for the first year (1859) were five in number: 1. Diday, on Infantile Syphilis. 2. Gooch, on Diseases of Women. 3. Memoirs on Diphtheria, by Bretonneau and others. 4. Schrœder van der Kolk, on the Spinal Cord and Epilepsy. 5. Selected Monographs on Convulsions, Resections, and Iridectomy. We now add to this list the names of the books which members for 1860 will receive:—

Vol. VI.—Clinical Memoirs on Abdominal Tumors and Intumescence. By Dr. Bright. Collected and reprinted from the Guy's Hospital Reports. Edited by Dr. Barlow. With numerous wood-cuts.

Vol. VII.—A Year-Book for 1859 — The Year-Book is designed to form a register in condensed abstract of all important communications, whether British or Foreign, in Medicine, Surgery, and their allied Sciences during the year. It will consist of five sections:—1st. Anatomy and Physiology, edited by Dr. Harley. 2d. Medicine, edited by Dr. Handfield Jones. 3d. Surgery, edited by Mr. Hulke. 4th. Diseases of Women and Children, edited by Dr. Graily Hewitt. 5th. Forensic Medicine and Toxicology, edited by Dr. Odling.

Vol. VIII.—Frerichs's Clinical Account of Diseases of the Liver, vol. i. With wood-cuts. Translated by Dr. Murchison. (Already issued.)

Vol. IX.—The First Fasciculus of an Atlas of Illustrations of Diseases of the Skin, copied from those of Hebra.

Dr. Bright's Clinical Memoirs and the Year-Book will be ready for issue almost immediately. The Portraits of Skin Diseases will be three in number, and of life-size. They will, it is hoped, be ready in December.

The annual amount of subscription is *five dollars and a quarter*. The number of members has already reached nearly three thousand. The Honorary Local Secretaries for the United States and Canada, all of whom will be glad to receive the names and subscriptions of those wishing to become members, and to arrange for the regular distribution of their books, are as follows:—

Philadelphia.—Richard J. Dunglison, M.D., 121 South Tenth Street.

Boston.—R. H. Salter, M.D., 1 Stamford Street.

New York.—Charles F. Heywood, M.D., 66 West Twentieth Street.

Montreal.—Geo. E. Fenwick, M.D., 34 Little James Street.

NECROLOGICAL NOTICES.

Dr. John Bellinger died on the thirteenth of August, of pulmonary consumption, at Charleston, South Carolina, in the fifty-sixth year of his age. He received his diploma at the University of Pennsylvania, in 1826, and immediately moved to Charleston, where, after many privations, he finally succeeded in gaining an enviable reputation as a practitioner of medicine and surgery. In 1848 he was appointed to the chair of surgery in the Medical College of the State of South Carolina, and filled the post to the entire satisfaction of his colleagues and his classes until 1851, when he voluntarily resigned.

Dr. Samuel Denton, Professor of Medicine in the University of Michigan, died at Ann Arbor, on the seventeenth of August.

Dr. Bernard M. Byrne, Surgeon in the United States Army, died recently at Fort Moultrie, Sullivan's Island, of typhoid fever. By birth, Surgeon Byrne was an Irishman, but he graduated at the University of Maryland. He distinguished himself in his proper capacity, in many of the battles in Mexico, and published a brochure entitled "An Essay to Prove the Contagious Character of Malignant Cholera," which passed through two editions.

Mr. John Crichton, who had attained great fame as a successful lithotomist, died at Dundee, Scotland, on the fourth of July, in the eighty-eighth year of his age.

Dr. Leroy D'Etoilles, whose name is so honorably connected with lithothrity and diseases of the urinary organs, died recently in Paris.

Bi-Monthly Bibliographical Record.

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Des Lésions des Ganglions Lymphatiques Viscéraux. Par C. Potain, M.D., etc. 8vo., pp. 81. Paris: Adrien Delahaye, 1860.

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